



VLINX ESR901 Converter
Installation & Configuration Manual

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AMS Controls, Inc.
12180 Prichard Farm Road
Maryland Heights, MO 63043
314.344.3144 – 1-800-334-521 (US & Canada) – fax: 314.344.9996 – support@amscontrols.com
www.amscontrols.com

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Chapter 1: Installing the VLINX ESR901 Converter

Introduction

The VLINX ESR901 Converter (ESR901) enables RS-485 devices to communicate with an Ethernet network.

Installing the VLINX ESR901 Converter

 **DANGER: Always follow proper Lockout/Tagout procedure to avoid potentially lethal electric shock!**

To install the ESR901,

1. Mount the ESR901 inside the control panel that houses the XL200 series controller.
2. The ESR901 should be connected to the same 24 VDC power supply as the XL200 series controller's CPU. Connect the wire from the power supply's -24 VDC terminal to the converter's GND terminal.
3. Connect the wire from the power supply's +24 VDC terminal to the converter's AC/DC+ N terminal.
4. Set the converter's DIP switches:
 - A. Switch DIP switch 1 (Run) to OFF.
 - B. Switch DIP switch 2 (Terminal) to ON.

5. Connect a cable containing a twisted pair from the Controller to the converter. AMS recommends unshielded CAT 5 for this cable:
 - A. Connect a wire from one pair to the converter's CTS/TX- terminal, and to the XL200 series controller at terminal B11.
 - B. Connect the other wire from the same pair to the converter's TX/TX+ terminal, and to the XL200 series controller at terminal B10.

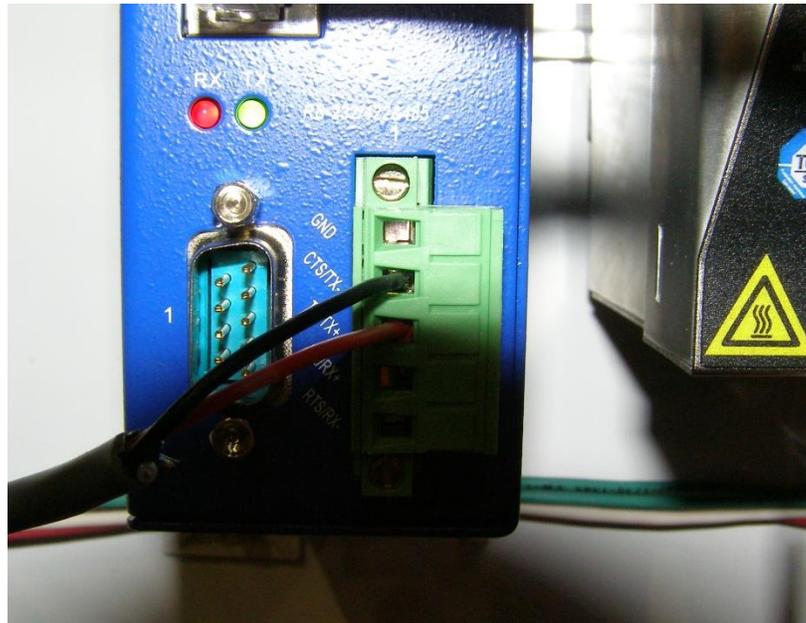


Figure 1: The cable with twisted pair wires, connected

6. Connect the network Ethernet cable to the converter's Ethernet port.

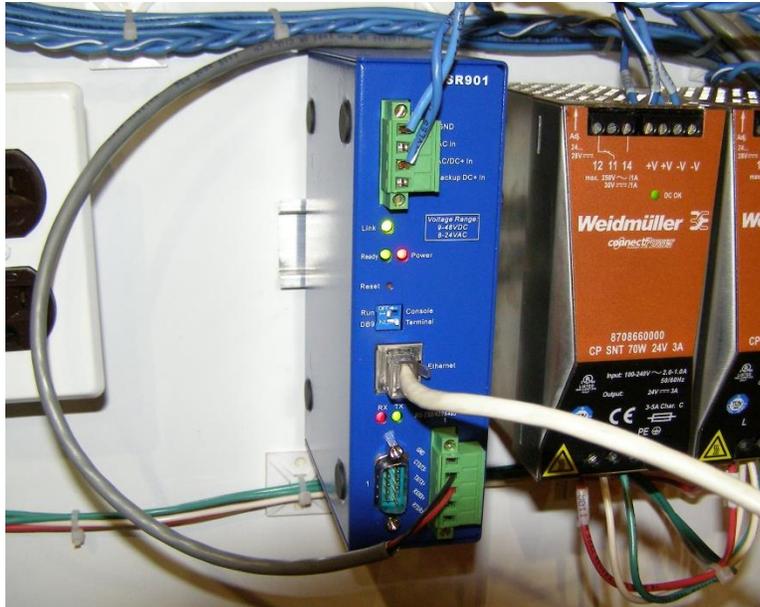


Figure 2: The VLINX ESR901 Converter installed in the control panel

The VLINX ESR901 Converter is installed.

Chapter 2: Configure the VLINX ESR901 Converter

Once the VLINX ESR901 Converter (ESR901) is installed, it must be configured. To configure the ESR901,

1. Install the VLINX ESP Manager software.
2. Select **Start – All Programs – B&B Electronics – VLINX – ESP Servers – VLINX ESP Manager**. The *VLINX ESP Manager screen* displays, showing all available serial servers.

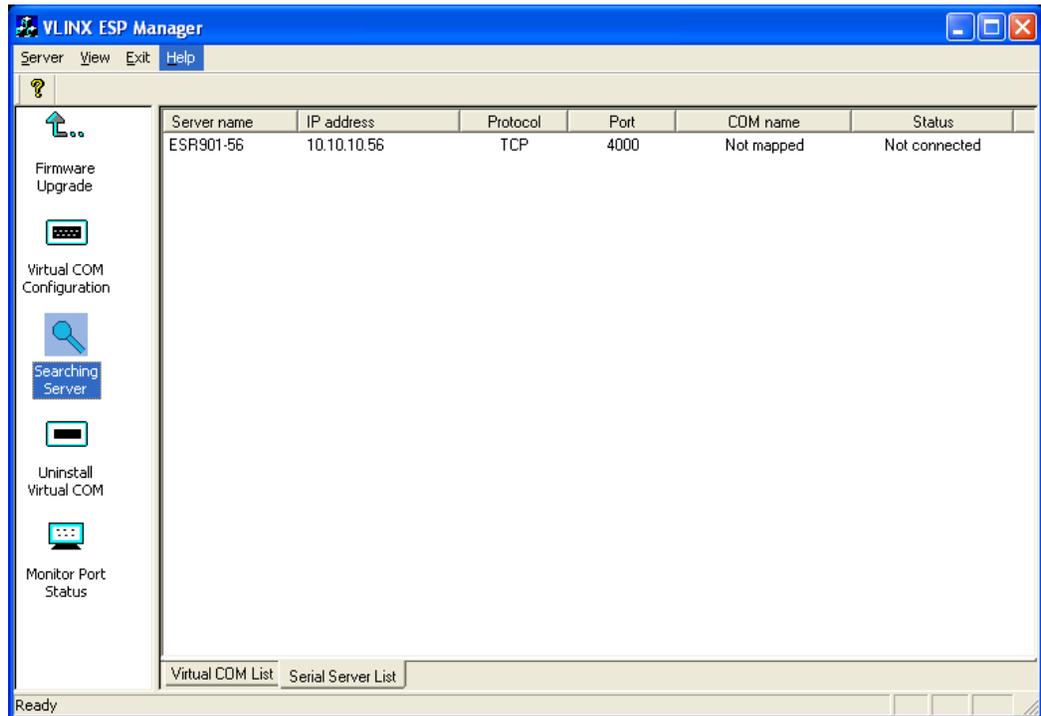
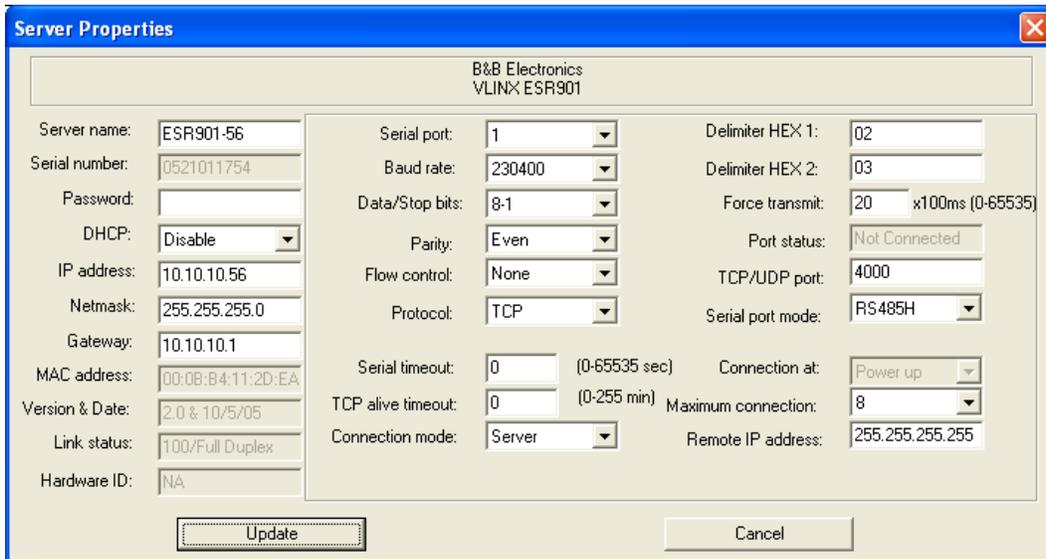


Figure 3: The VLINX ESP Manager screen

- From the list, double click the **name** of the server you want to configure for the ESR901. The *Server Properties* screen displays:



Server Properties

B&B Electronics
VLINX ESR901

Server name: ESR901-56
 Serial number: 0521011754
 Password:
 DHCP: Disable
 IP address: 10.10.10.56
 Netmask: 255.255.255.0
 Gateway: 10.10.10.1
 MAC address: 00:08:B4:11:2D:EA
 Version & Date: 2.0 & 10/5/05
 Link status: 100/Full Duplex
 Hardware ID: NA

Serial port: 1
 Baud rate: 230400
 Data/Stop bits: 8-1
 Parity: Even
 Flow control: None
 Protocol: TCP
 Serial timeout: 0 (0-65535 sec)
 TCP alive timeout: 0 (0-255 min)
 Connection mode: Server

Delimiter HEX 1: 02
 Delimiter HEX 2: 03
 Force transmit: 20 x100ms (0-65535)
 Port status: Not Connected
 TCP/UDP port: 4000
 Serial port mode: RS485H
 Connection at: Power up
 Maximum connection: 8
 Remote IP address: 255.255.255.255

Update Cancel

Figure 4: The Server Properties screen

- Change the server properties as required:

Field	Setting
• Server Name	Enter a descriptive name for the server.
• Serial Number	Displays the serial number of the server.
• Password	If desired, enter a password to restrict access to this page.
• DHCP	See your Network Administrator for specific, appropriate settings.
• IP Address	See your Network Administrator for specific, appropriate settings.
• Netmask	See your Network Administrator for specific, appropriate settings.
• Gateway	See your Network Administrator for specific, appropriate settings.
• MAC Address	Displays the MAC Address for the server.
• Version & Date	Displays the version and date of the server software.
• Link Status	Displays the Ethernet network speed.
• Hardware ID	Display only.
• Serial Port	Select 1
• Baud Rate	See your Network Administrator for specific, appropriate settings.
• Data/Stop Bits	Select 8-1
• Parity	Select Even
• Flow Control	Select None
• Protocol	Select TCP

- Serial Timeout Enter **0**
- TCP Alive Enter **0**
 Timeout
- Connection Select **Server**
 Mode
- Delimiter HEX 1 Enter **03**
- Delimiter HEX 2 Enter **00**
- Force Transmit Enter **65535**
- Port Status *Display only*
- TCP/UDP Port Enter **4000**
- Serial Port Select **RS485H**
 Mode
- Connection at *Display only*
- Maximum Select **8**
 connection
- Remote IP Enter **255.255.255.255**
 Address

5. Click **[Update]**. The *Restart pop-up window* displays.



Figure 5: Restart pop-up window

6. Click **[Yes]**. The serial server begins to re-start. When it's finished, the programs prompts you, asking if you want to search all reachable servers again.
7. Click **[No]** (generally, it's unnecessary to search a second time).
8. Close the *VLINX ESP Manager window*. The configuration is complete.

Chapter 3: Configure Eclipse to Communicate with the VLINX ESR901 Converter

Once the VLINX ESR901 Converter (ESR901) is installed and configured, the Eclipse software must be configured to communicate with the converter. To configure Eclipse to communicate with the ESR901, first define the device's COMM ports for Eclipse and then define the machine Eclipse should associate with the device.

Define Device COMM Ports for Eclipse

1. Start Eclipse. The *Eclipse window* displays.

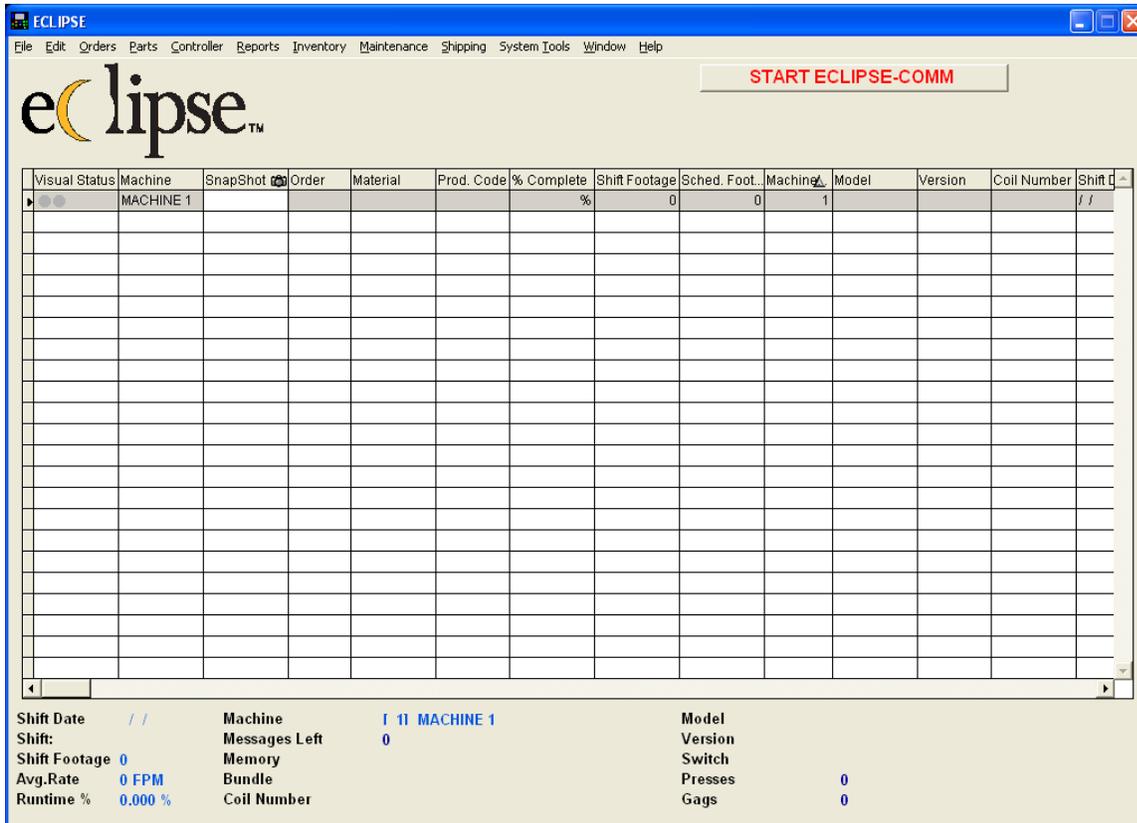


Figure 6: The Eclipse window

2. Verify that Eclipse-COMM is not running.
 - If the large button at the upper-right of the window displays [START ECLIPSE-COMM], Eclipse-COMM is already off.
 - If the large button at the upper-right of the window displays [ECLIPSE-COMM IS RUNNING] Eclipse-COMM is on.

Click the button to bring the window forward.

Click the close button  to close the Eclipse window and shut Eclipse off.

3. Select **Maintenance – COMM Port Definitions**. The *COMM Port Definitions window* displays.

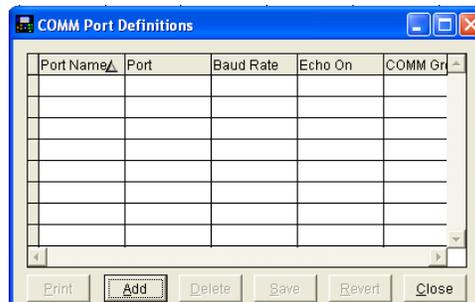


Figure 7: The COMM Port Definitions window

4. Click **[Add]**. The first line is highlighted.

Note: If there are already records displayed when the window opens, the pop-up window prompts to ask if you want to use the highlighted record as a base for the new record.

- Click **[Yes]** to start with a partially-filled line.
 - Click **[No]** to start with a completely blank line.
5. In the **Port Name** field, enter a unique name for the device you're adding.
 6. From the **Adapter Type** drop-down listbox, select the **B&B Ethernet**.
 7. From the **Port** drop-down listbox, select **IP Address**.
 8. In the **IP Address** field, enter the device's IP Address.
 9. From the **Baud Rate** drop-down listbox, select the appropriate baud rate for communicating with the new device.
 10. Skip the **Setting** field—it's prefilled.

11. Checkmark the **Active** checkbox to indicate the device is operating. Uncheck it if the device is not operating (for example, if you are installing and configuring it now but not planning to put it into service until later).
12. Skip the **Echo On** checkbox—it auto selects based on the Adapter Type selected later.
13. Skip the **Config Port** checkbox—it auto selects based on the Adapter Type selected later.
14. Skip the **COMM Group** drop-down listbox.
15. Click [**Save**]. The device you set up is saved in the system.
16. Repeat steps 4-15 for each additional device you are adding.
17. Click [**Close**]. The COMM port is defined.

Define the Machine Eclipse Associates with the Device

1. Open **Maintenance – Machine Definitions**. The *Machine Definitions* window displays:

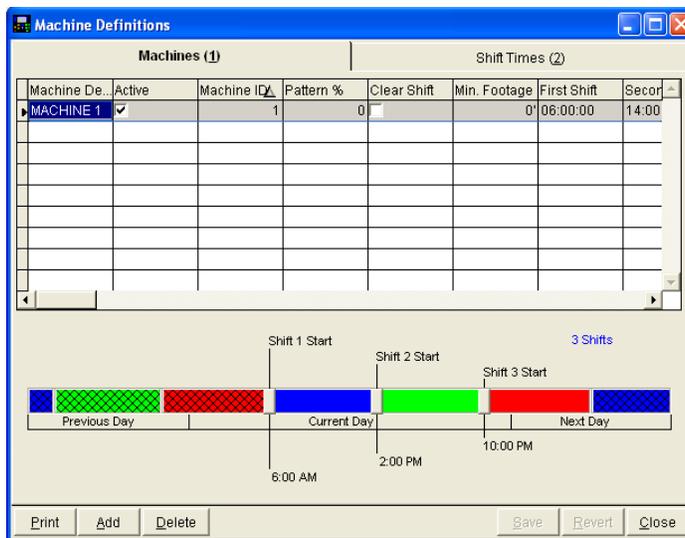


Figure 8: Machine Definitions window

Note: If no machines are already defined when Eclipse starts, Eclipse automatically adds and displays Machine 1 in this form.

2. If no line displays for the desired machine, click [**ADD**] to start a new line for the machine definition.
3. In the **Machine Description** field, enter a unique name for the machine.

4. Checkmark **Active** if the device is active.
5. In the **Machine ID** field, enter a unique ID number for the machine. The ID number must match the network ID number assigned to the Controller.
6. From the **COMM Port** drop-down listbox, select the COMM port for this machine's device.
7. Skip the following fields:
 - Machine Group
 - Clear Shift
 - Min. Footage field
 - First Shift
 - Second Shift
 - Third Shift
 - Default Times
 - Disable Open Request
 - No Punch Parts
 - Coil Print Port
 - Bundle by Wgt
 - Network Printer
 - Network Printer
 - Ascending
 - Descending
 - Natural
 - Pattern Hrs
8. Click **[Save]**. The information for the device is saved.
9. Click **[Close]**.
10. Click **[Start Eclipse-COMM]**. The Eclipse-COMM window displays.

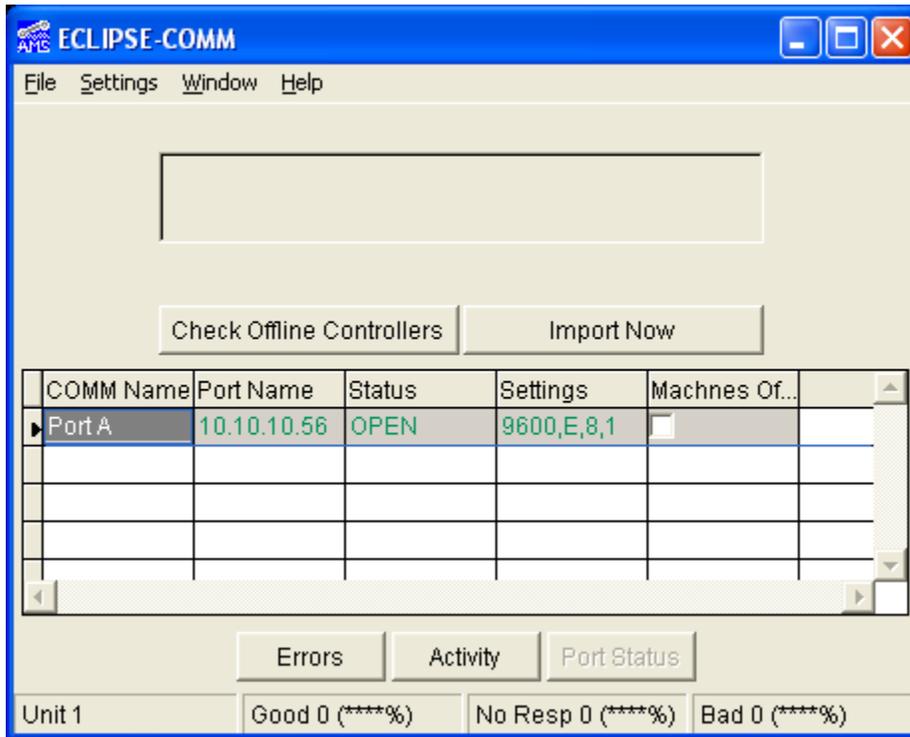


Figure 9: The Eclipse-COMM window

11. Verify that the port's status is OPEN (i.e., its line is green).
 - If the port is not OPEN, click the **Disabled** checkbox to see if the port opens. If it still does not open after that, there is something wrong in either the ESR901 set up or in the Network connection.
12. Minimize the Eclipse-COMM window. The Eclipse window displays.
13. Verify Eclipse is operating correctly.
 - If Eclipse is communicating with the new device, the circles under **Visual Status** will display as red or green (see Figure 10).
 - If it's not communicating, both circles are grey (see Figure 6).

Appendix A: Glossary

Converter

A device that enables other devices to communicate with an Ethernet network.

Device

A unit of hardware, outside the essential computer (processor, memory, and data paths), that can provide input, receive output, or both.

Eclipse

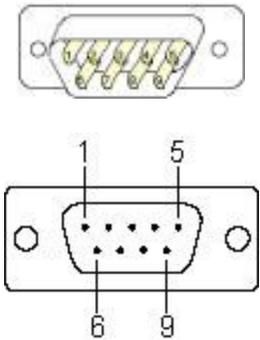
Production management software that links production scheduling to the shop floor. It automatically downloads orders, uploads production data and monitors machines in real time while assembling the data into detailed reports.

VLINX ESR901 Converter

A device that enables RS-485 devices to communicate with an Ethernet network.

Appendix B: RS-485 Connections

**DB-9 Male
outside**



RS-485 Signal Name	Direction	RS-485	DB9M Pin
Data B (+)	In/Out	DATA B (+)	3
Data A (-)	In/Out	DATA A (-)	4
Signal Ground	---	GND	5

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