

The Advantech EKI-1511 Converter
enables RS-485 devices to communicate
with an Ethernet network.

Advantech EKI- 1511 Converter Installation and Configuration





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Install the Advantech EKI-1511 Converter

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

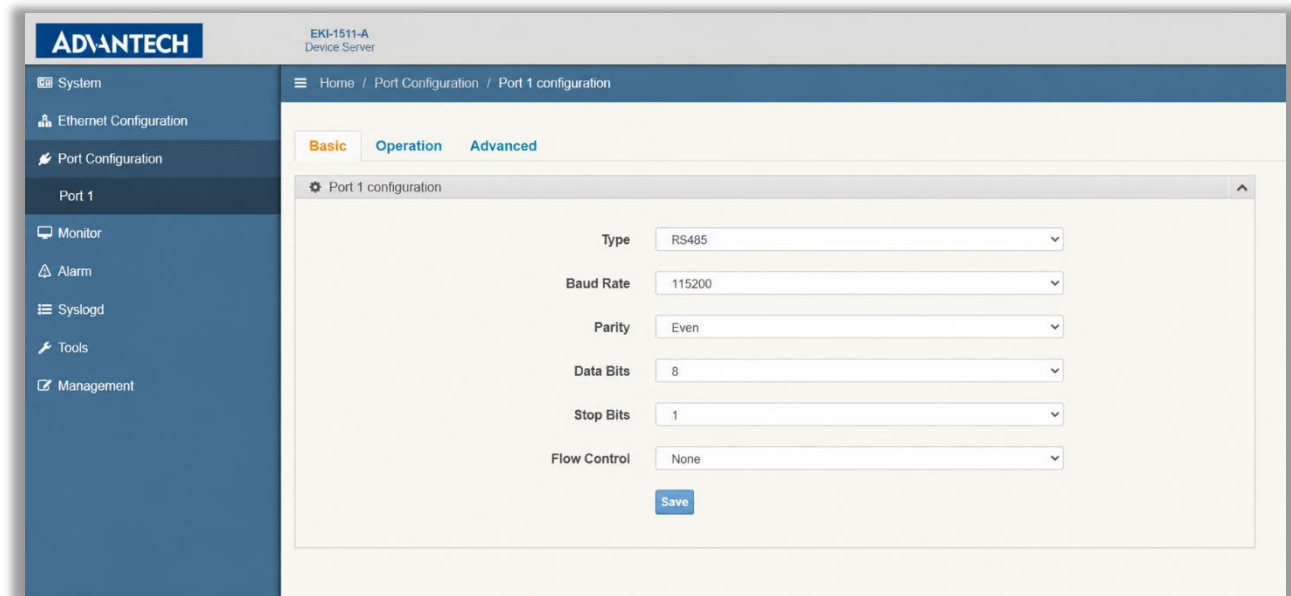
To install the EKI-1511:

1. Mount the EKI-1511 inside the control panel that houses the XL200 series controller.
2. The EKI-1511 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 V - terminal.
3. Connect the wire from the power supply's +24 VDC terminal to the converter's V+ terminal.
4. Connect a cable containing a twisted pair from the controller to the converter.
AMS Controls recommends using an unshielded CAT 6 for this cable.
 - a. Connect a wire from one pair to the converter's Data - terminal Pin 1, and to the XL200 series controller at terminal B11.
 - b. Connect the other wire from the same pair to the converter's Data + terminal Pin 4, and to the XL200 series controller at terminal B10.
5. Connect the network Ethernet cable to the converter's Ethernet port.

Configure the EKI-1511 Converter

Once the Advantech EKI-1511 converter is installed, it must be configured. To configure the EKI-1511:

1. Make a note of the EKI-1511 MAC Address located on the back of the device right above the barcode.
Use the MAC Address to locate the device on the LAN. The EKI-1511's default configuration is to obtain an IP Address on the LAN via DHCP. If you are unable to locate the device on your network, please consult with your network administrator to verify incoming connection to the EKI-1511 and that they are seeing the device on the network.
2. Open a web browser and type in the IP Address obtained by the EKI-1511. This will take you to the web interface setup. Select **Ethernet Configuration**. Set a Static IP Address for the EKI-1511 by entering in the following information:
 - 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.*
 - DHCP: *See your Network Administrator for specific, appropriate settings.*Once the network settings are configured, select **Tools** from the menu and reboot the EKI-1511 for the changes to take place.
3. Type in the updated IP Address of the EKI-1511 within your web browser and select **Port Configuration> Port1**.



ADVANTECH EKI-1511-A Device Server

Home / Port Configuration / Port 1 configuration

Basic Operation Advanced

Port 1 configuration

Type: RS485

Baud Rate: 115200

Parity: Even

Data Bits: 8

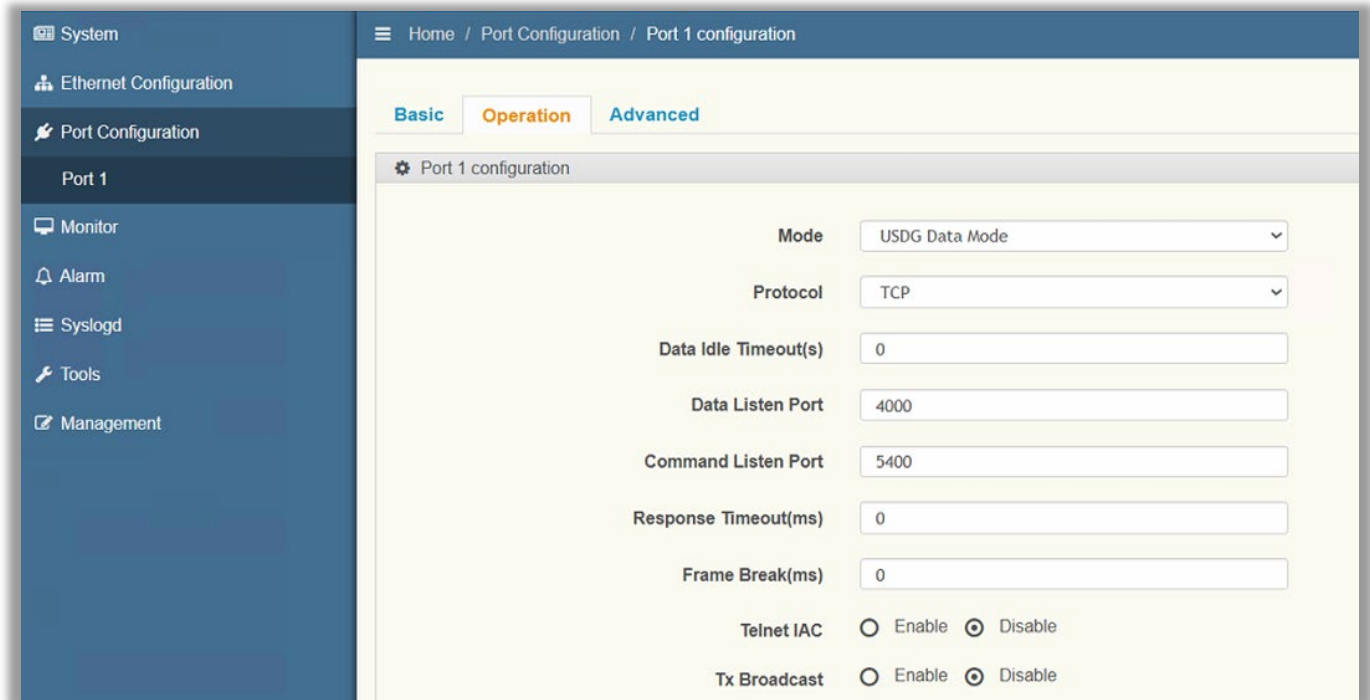
Stop Bits: 1

Flow Control: None

Save

4. Under **Basic** settings change the port configuration as required:

- Type: **RS485**
- Baud Rate: *this setting will align with the baud rate configured at the XL200 controller. AMS Controls recommends using a baud rate of 115200.*
- Parity: **Even**
- Data Bits: **8**
- Stop Bits: **1**
- Flow Control: **None**



System / Home / Port Configuration / Port 1 configuration

Basic Operation Advanced

Port 1 configuration

Mode: USDG Data Mode

Protocol: TCP

Data Idle Timeout(s): 0

Data Listen Port: 4000

Command Listen Port: 5400

Response Timeout(ms): 0

Frame Break(ms): 0

Telnet IAC: ☐ Enable ☒ Disable

Tx Broadcast: ☐ Enable ☒ Disable

5. Select the **Operation** Tab to continue configuring the EKI-1511. Change the configurations as required:
 - Mode: **USDG Data Mode**
 - Protocol: **TCP**
 - Data Idle Timeout(s): 0
 - Data Listen Port: **4000**
 - Command Listen Port: Default value or 5400
 - Response Timeout(ms): 0
 - Frame Break(ms): 0
 - Telnet IAC: Disable
 - TX Broadcast: Disable

TCP Mode Extra Options

Auto Connect To Peer IP ☐

Port Data Buffering

Media

When Data Full

Pack conditions (Pack sent immediately when reach 1024 Bytes)

☐ By size

☐ By interval

☒ By end-character Char Format

Char Value

☐ By character-timeout

Transmit Target Peers

Peer Number

#	Local Port	Peer IP address	Port
Save			

- Auto Connect to Peer IP: Unchecked
- Media: None
- When Data Full: Stop
- By Size: Unchecked
- By Interval: Unchecked
- By end-character: **HEX**
- Char Value: **03**
- By character-timeout: Unchecked
- Peer Number: 0

6. Once the configurations are set select **Save** at the bottom of the window. To apply changes the EKI-1511 will need to be restarted. Restart by navigating to **Tools** and select **Reboot**.



Configure Eclipse to Communicate with the EKI-1511 Converter

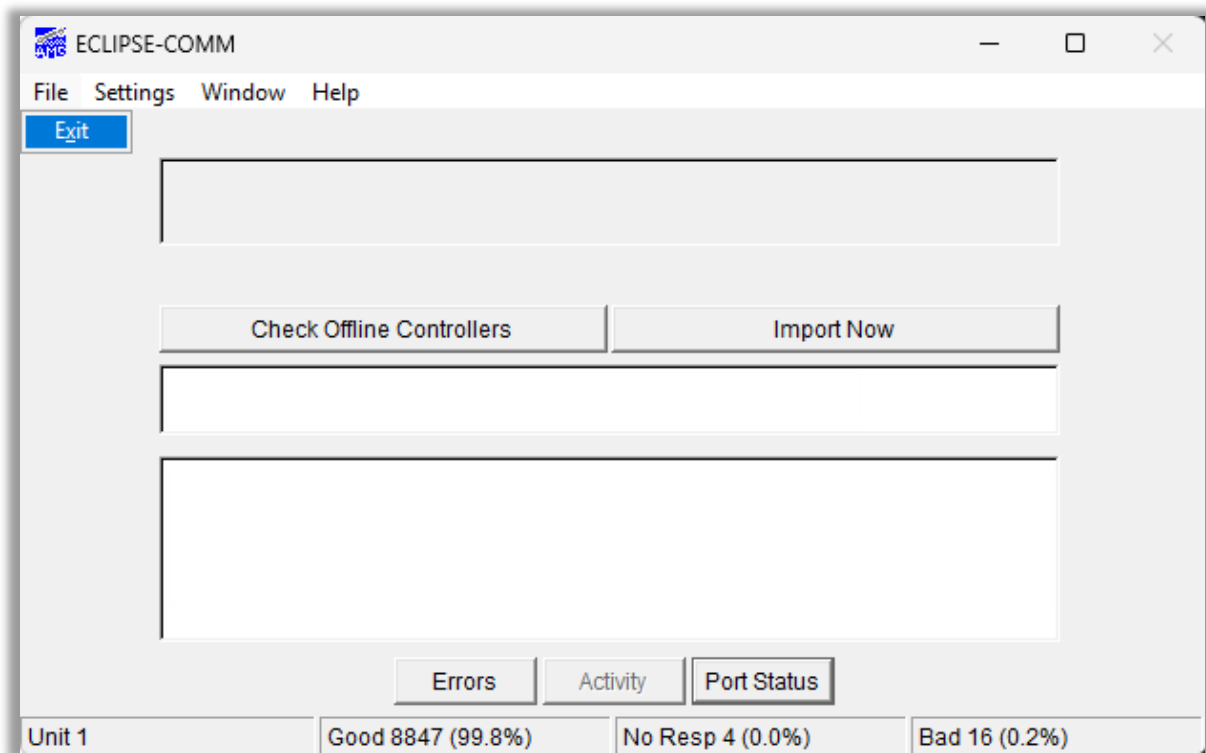
1. Once the Advantech EKI-1511 Converter (EKI-1511) is installed and configured, the Eclipse software must be configured to communicate with the converter.
2. To configure Eclipse to communicate with the EKI-1511, first define the device's COMM ports for Eclipse and then define the machine Eclipse should associate with the device.

Define Device COMM Ports for Eclipse

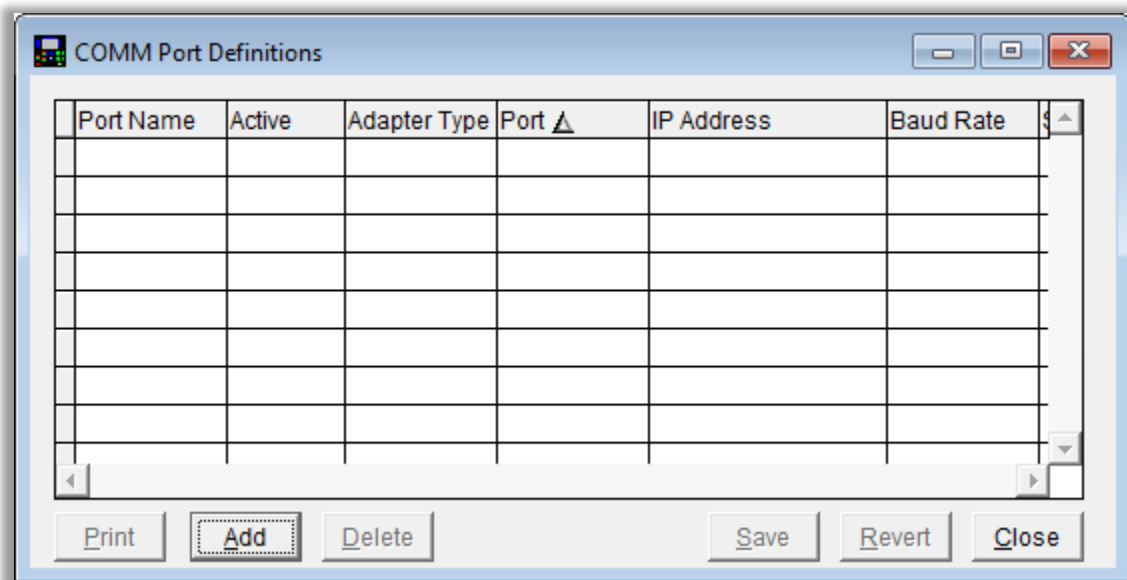
3. Start Eclipse. The Eclipse window displays.

The screenshot shows the Eclipse software window. At the top, there is a menu bar with options: File, Edit, Orders, Parts, Controller, Reports, Inventory, Maintenance, Equipment PM, System Tools, Window, Help. Below the menu bar is a toolbar with a large button labeled "ECLIPSE-COMM IS RUNNING". The main area of the window contains a table with the following columns: Visual Status, Machine #, SnapShot, Order, Material, Prod. Code, Runtime %, % Complete, Shift Meters, Version, Sched. Meters, and Machine #. The first row of data shows: Visual Status (red dot), Machine # (Rollformer 1 [1]), SnapShot (yellow bar), Order (Ord9112), Material (AL12G), Prod. Code (AL12GPC), Runtime % (47.92 %), % Complete (33 %), Shift Meters (2605), Version (5.105.0), Sched. Meters (0), and Machine # (1). Below the table is a status bar with the following information: Shift Date (09/02/2026), Machine ([1] Rollformer 1), AMS Model (XL200BP), Shift (1), Messages Left (0), Version (5.105.0), Shift Meters (2605), Memory (98), Switch (1), Avg. Rate (30 MPM), Bundle (91), Presses (2), Runtime % (47.919 %), Coil Number (AL12GCL), and Gags (0).

4. 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 Eclipse-COMM window forward.
 - Click **File** button and **Exit** to close Eclipse-COMM.



5. Select **Maintenance > COMM Port Definitions**. The *COMM Port Definitions* window displays.

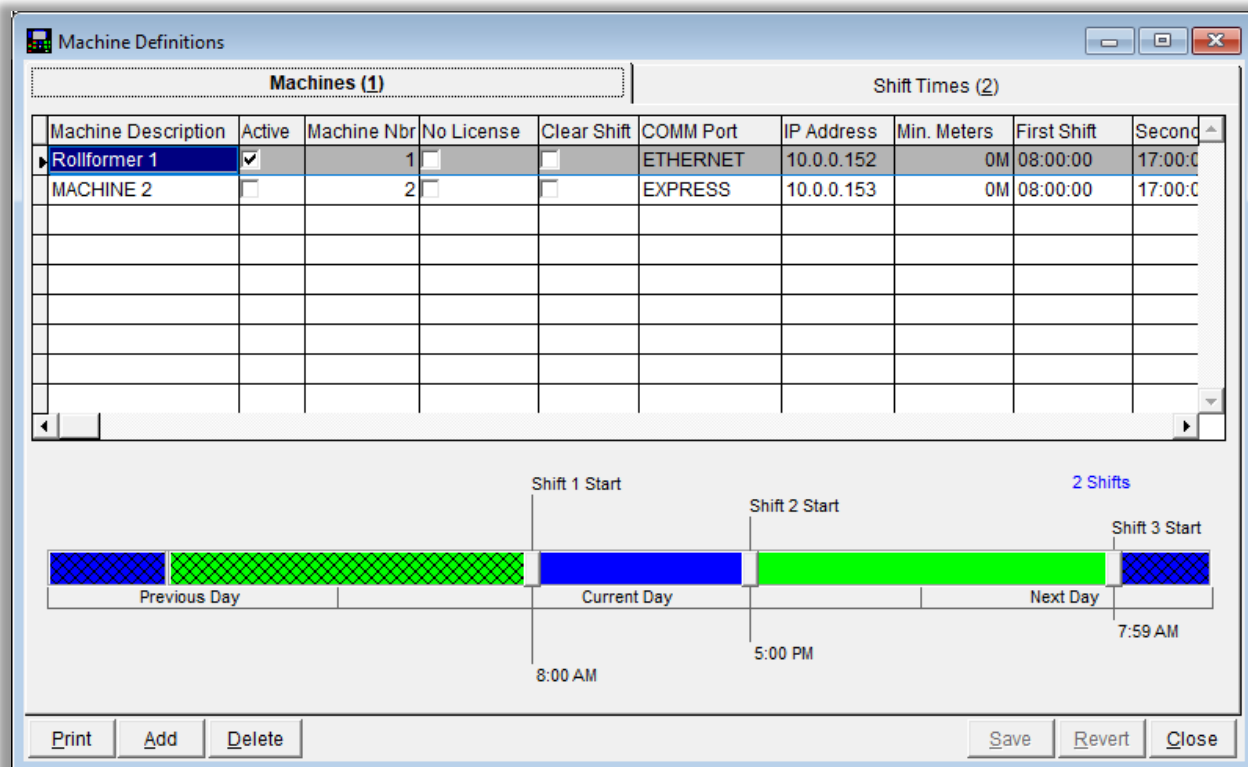




6. Click **[Add]**. The first line is highlighted.
Note: If there are already records displayed when the window opens, the pop-up window prompts to ask if you want to use the highlighted record as a base for the new record.
 - Click **[Yes]** to start with a partially filled line.
 - Click **[No]** to start with a completely blank line.
7. In the **Port Name** field, enter a unique name for the device you are adding.
8. From the **Adapter Type** drop-down listbox, select the **B&B Ethernet**.
9. From the **Port** drop-down listbox, select **IP Address**.
10. In the **IP Address** field, enter the EKI-1511 device's IP Address.
11. From the Baud Rate drop-down listbox, select the appropriate baud rate for communicating with the new device.
12. Skip the **Setting** field—it's prefilled.
13. 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).
14. Skip the **Echo On** checkbox—it auto selects based on the Adapter Type selected later.
15. Skip the **Config Port** checkbox—it auto selects based on the Adapter Type selected later.
16. Skip the **COMM Group** drop-down listbox.
17. Click **[Save]**. The device you set up is saved in the system.
18. Repeat steps 4-17 for each additional device you are adding.
19. 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:



The screenshot shows the 'Machine Definitions' window. It has a title bar with standard window controls. Below the title bar, there are two tabs: 'Machines (1)' and 'Shift Times (2)'. The 'Machines (1)' tab is active, displaying a table with the following columns: Machine Description, Active, Machine Nbr, No License, Clear Shift, COMM Port, IP Address, Min. Meters, First Shift, and Second Shift. The table contains two rows: 'Rollformer 1' (Active: checked, Machine Nbr: 1, COMM Port: ETHERNET, IP Address: 10.0.0.152, Min. Meters: 0M, First Shift: 08:00:00, Second Shift: 17:00:00) and 'MACHINE 2' (Active: unchecked, Machine Nbr: 2, COMM Port: EXPRESS, IP Address: 10.0.0.153, Min. Meters: 0M, First Shift: 08:00:00, Second Shift: 17:00:00). Below the table, there is a shift schedule diagram. It shows a timeline with three days: 'Previous Day', 'Current Day', and 'Next Day'. The 'Current Day' is divided into two shifts: 'Shift 1 Start' at 8:00 AM and 'Shift 2 Start' at 5:00 PM. The 'Next Day' has a 'Shift 3 Start' at 7:59 AM. The diagram is labeled '2 Shifts' in blue text. At the bottom of the window, there are buttons for 'Print', 'Add', 'Delete', 'Save', 'Revert', and 'Close'.

Machine Description	Active	Machine Nbr	No License	Clear Shift	COMM Port	IP Address	Min. Meters	First Shift	Second Shift
Rollformer 1	☒	1	☐	☐	ETHERNET	10.0.0.152	0M	08:00:00	17:00:00
MACHINE 2	☐	2	☐	☐	EXPRESS	10.0.0.153	0M	08:00:00	17:00:00

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. Select the **Active** checkmark if the machine is active. Uncheck it if the machine is not in service.
5. In the **Machine ID** field, enter a unique ID number for the machine. The ID number must match the network unit 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

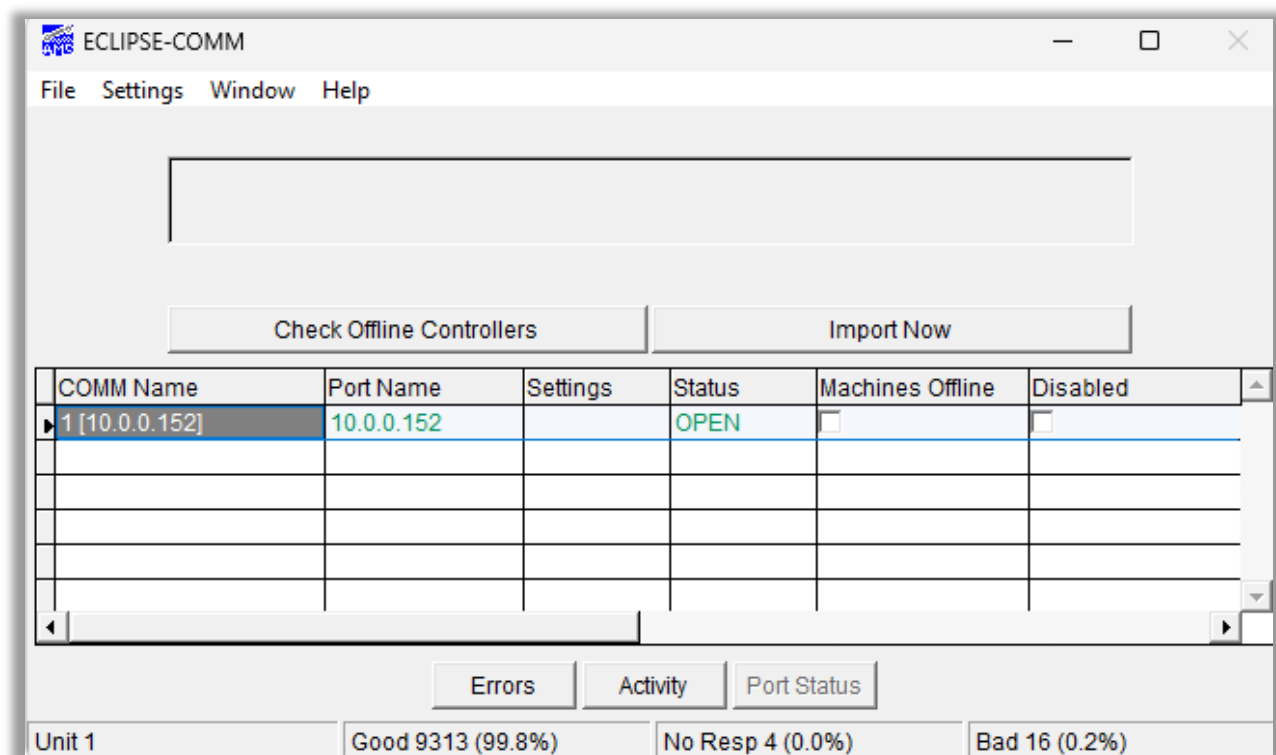


- Third Shift
- Default Times
- Disable Open Request
- No Punch Parts
- Coil Print Port
- Bundle by Wgt
- Network Printer
- Network Printer
- Ascending
- Descending
- Natural
- Pattern Hrs

8. Click **[Save]**. The information for the device is saved.

9. Click **[Close]**.

10. Click **[Start Eclipse-COMM]**. The Eclipse-COMM window displays.



11. Verify that the port's status is OPEN (i.e., its line is green).

- If the port is not OPEN, click the **Check Offline Controllers** button to see if the port opens. If it still does not open after that, there is something wrong in either the ESR901 setup or in the Network configuration.



12. Minimize the Eclipse-COMM window. The Eclipse window displays.

13. Verify Eclipse is operating correctly.

- a. If Eclipse is communicating with the new device, the circles under visual status will display as red or green.

The screenshot shows the Eclipse software window with a menu bar (File, Edit, Orders, Parts, Controller, Reports, Inventory, Maintenance, Equipment PM, System Tools, Window, Help) and the Eclipse logo. Below the logo is a table with the following data:

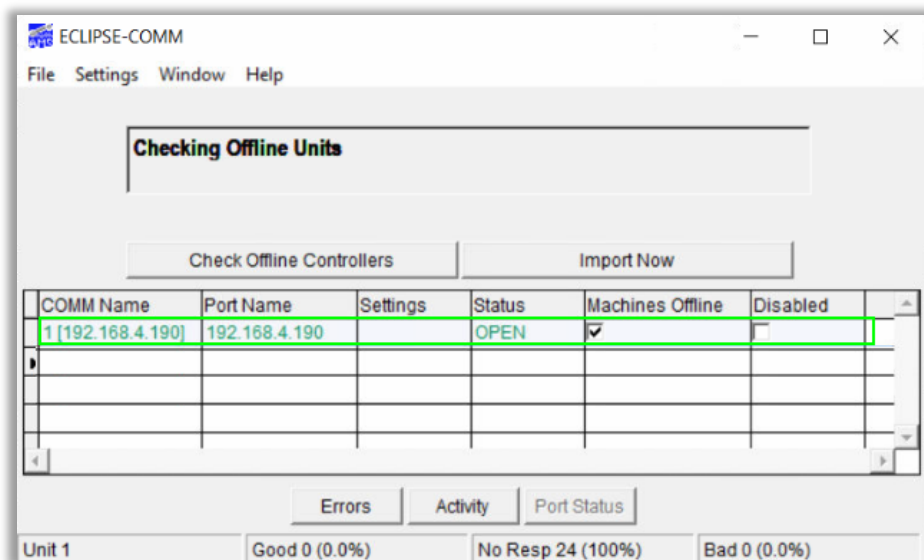
Visual Status	Machine ▲	SnapShot 📷	Order	Material	Prod. Code	Runtime %	% Complete	Shift Meters	Version
▶ ● ●	Rollformer 1 [1]		Ord9112	AL12G	AL12GPC	47.92 %	33 %	2605	5.105.0

- b. If it is not communicating, both circles are grey.

14. Minimize Eclipse. The installation and configuration are complete.

Troubleshooting Connection Issues

ISSUE: Eclipse-COMM is showing that the Status is OPEN, but the Machines Offline box is checked.



- This indicates that Eclipse can reach the IP Address of the EKI-1511 but is unable to communicate with the controller. Below are recommended next steps to help isolate the issue:
- Confirm the baud rate set at the controller matches what is set for the EKI-1511 and Eclipse Comm port definition.

Communication between the EKI-1511 and the XL200 controller are conducted through the physical wiring of the Data +/Data – terminals at the EKI-1511 and the B10/B11 terminals at the controller. Follow the steps below to help isolate a wiring issue:

- The EKI-1511 web interface has a built in Monitor. If you navigate to **Monitor > Port1 > Statistic** (tab). Make note if the Tx Count and Rx count are going up. If you are only

seeing a Tx Count or an Rx Count like the example image below, it may be that you have the terminal at the EKI-1511 connected to the wrong terminal at the controller:



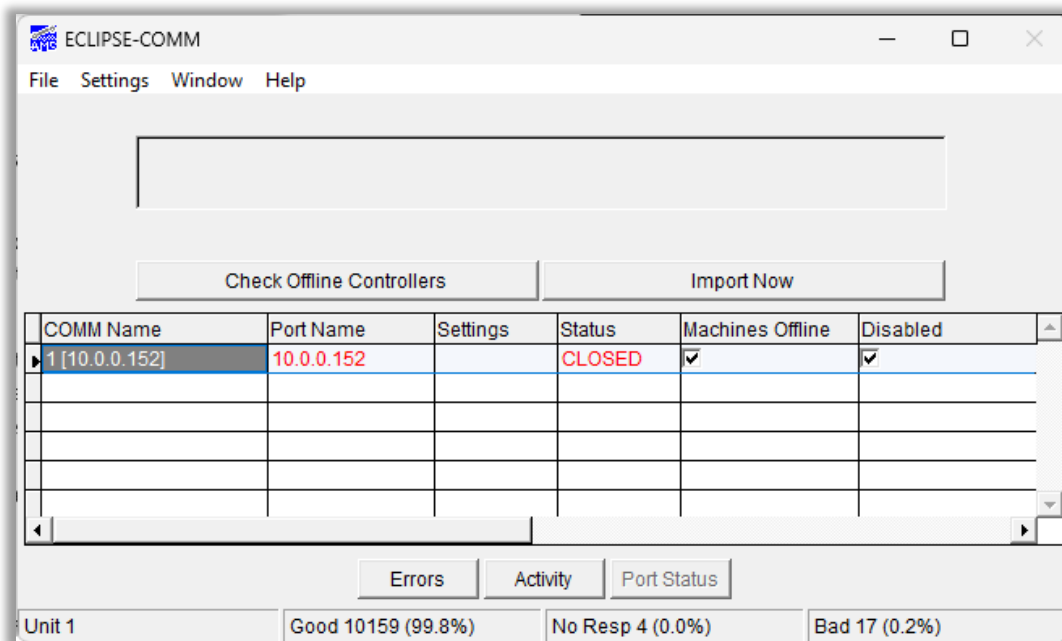
The screenshot shows the Advantech web interface for the EKI-1511-A Device Server. The left sidebar contains navigation links: System, Ethernet Configuration, Port Configuration, Monitor (selected), Port 1 (selected), Alarm, Syslogd, Tools, and Management. The main content area shows the 'Port 1 Status' page with tabs for Setting, Statistic (active), and Connected IP. A table displays the following data:

Port 1 Status	
Tx Count	259
Rx Count	0
Total Tx Count	259
Total Rx Count	0
RTS	ON
CTS	OFF

- If this is something that you are seeing, try swapping the wires for the B10 and B11 terminal at the controller and monitor if you now see the count rise for both Tx and Rx.
- Ensure the wires connected at the Data +/-Data – terminals at the EKI-1511 are secure and not loose.
- Ensure that wires connected to the B10/ B11 terminals at the controller are secure and not loose.
- Strip and re-land wiring at the Data +/-Data – terminals at the EKI-1511.
- Strip and re-land wiring at the B10/B11 terminals at the controller.



ISSUE: The Eclipse-COMM is showing the Status is CLOSED and the Machines Offline box is checked.



This status indicates that Eclipse is unable to reach the IP Address assigned to the EKI-1511. Below are recommended next steps to help isolate the issue:

- Confirm that Eclipse's COMM Port Definition is using the correct IP Address assigned to the EKI-1511.
- Run a network ping test out to the IP Address of the EKI-1511. If the response is timing out at the Eclipse computer, it may be that the network leading to the EKI-1511 converter is down.
- Test the incoming connection to the EKI-1511 by unplugging the ethernet cable leading to the RJ45 port of the converter, plug the cable into a laptop or computer to verify that there is a successful connection.
- Consult with your network administrator if you are not receiving a successful connection from the EKI-1511's uplink.

For any other issues or questions, please contact AMS Controls technical support.

(314) 344-3144 - support@amscontrols.com