

**Break-Out Session:** DTU400 – New Communication Products

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**Lab Exercise:** Using the 1203-USB Converter





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## Background

### Lab Objectives

The 1203-USB converter is a communication module that provides a communications interface between a computer and any Allen-Bradley product implementing DPI (PowerFlex 7-Class drives), DSI (PowerFlex 4-Class drives), or SCANport (1305 drives, 1336 drives, etc.). The objective of this lab is to demonstrate the features of the 1203-USB converter.

### Conventions Used in This Lab

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**△ ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss. Attention statements help you identify a hazard, avoid a hazard, and recognize the consequences.

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**① TIP:** Identifies information that is helpful, but not necessary, in completing a task.

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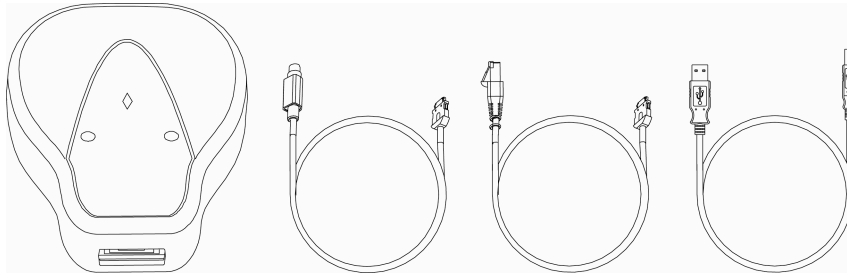
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**📄 FYI:** Provides additional information regarding the lab equipment, but is not needed to complete the lab.


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### Lab Equipment

1. One (1) PC running the Windows XP operating system. Verify that the following software is installed on the computer:
  - RSLinx v2.50.00 (or higher)
  - DriveTools SP v4.01 (or higher) includes DriveExecutive and DriveObserver
  - DriveExplorer v5.01 (or higher)
2. One (1) 1203-USB converter containing the following:
  - One (1) 20-HIM-H10 cable (1 meter long DPI/SCANport cable with male 26-pin-to-male 8-pin circular mini-DIN connectors).
  - One (1) 22-HIM-H10 cable (1 meter long DSI cable with male 26-pin-to-male RJ45 connectors).
  - One (1) USB cable (2 meters long with a Type B connector for connecting to the converter and a Type A connector for connecting to a computer).
  - One (1) “USB Drivers” CD (includes 1203-USB driver and USB serial port driver) (not pictured)



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 **FYI:** When purchasing a 1203-USB converter, the package will contain all of the cables shown in the picture above, plus a CD with the latest version of DriveExplorer Lite and USB drivers.

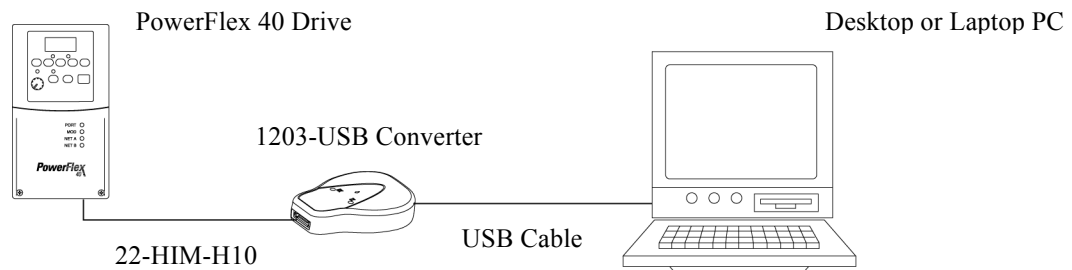
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3. One (1) PowerFlex 40 AC Drive Demo Case (includes power cord).
4. One (1) PowerFlex 70 AC Drive Demo Case (includes power cord).

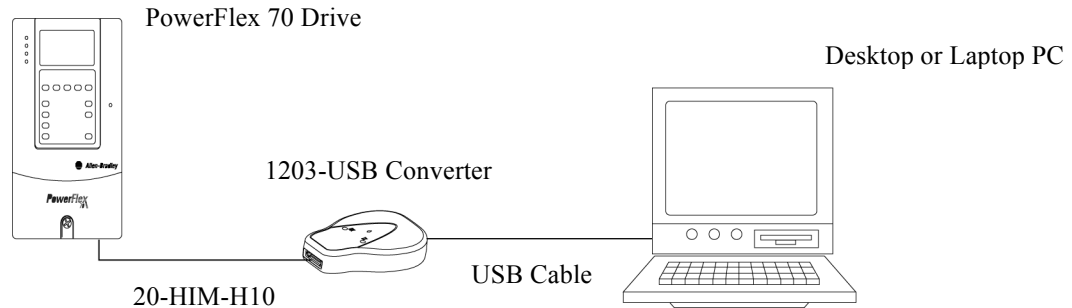
### System Diagram

The system diagram below shows the components used in this lab and how they are connected. During this lab, you will be asked to connect to a DSI drive (PowerFlex 40), and then connect to a DPI drive (PowerFlex 70).

#### Example Connection 1



#### Example Connection 2




## Initializing the PC

The purpose of this section is to help you clean up the computer so it is back in its default state, and ready for you to begin this lab.

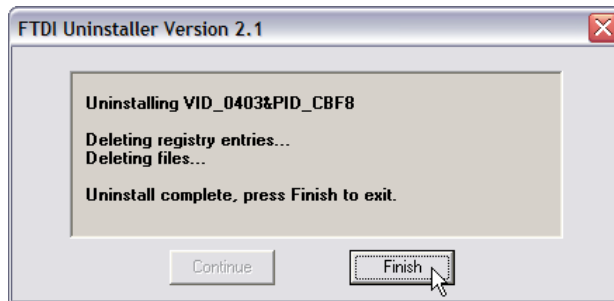
### Removing the USB Drivers

1. Disconnect the 1203-USB converter from the PC, and from the drive (if it is still connected).

2. On the Window's Desktop, double-click on the  icon.
3. The "FTDI Uninstaller Version 2.1" screen will appear. Verify that the USB cable from the 1203-USB converter is removed from the computer, and then click **Continue**.



4. The utility will remove the USB drivers from the computer and after they are successfully removed, a confirmation screen appears. Click **Finish**.




### Removing the USB Communication Driver in RSLinx

1. On the Windows Start menu, click **Start > (All) Programs > Rockwell Software > RSLinx > RSLinx (Classic)** to launch the RSLinx software tool.
2. On the RSLinx menu bar, click **Communications > Configure Drivers...** to display the Configure Drivers screen. If a driver named "USB" or "AB\_DF1-#" is running under the Configured Drivers: window, delete it. To delete a driver, select the driver by clicking on it, and then click **Delete**.
3. Close RSLinx.

## Connecting the Converter

1. Since the converter receives its power from a powered drive (and not the USB port on a computer), you will need to connect the converter to the PowerFlex 40 drive using the 22-HIM-H10 cable or the PowerFlex 70 drive using the 20-HIM-H10 cable.
2. Connect the converter to the computer using the USB cable. Verify that power is applied to the drive.

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 **FYI:** The 1203-USB converter receives its power from the drive (not the computer's USB port), so the drive must be powered before the converter will operate.

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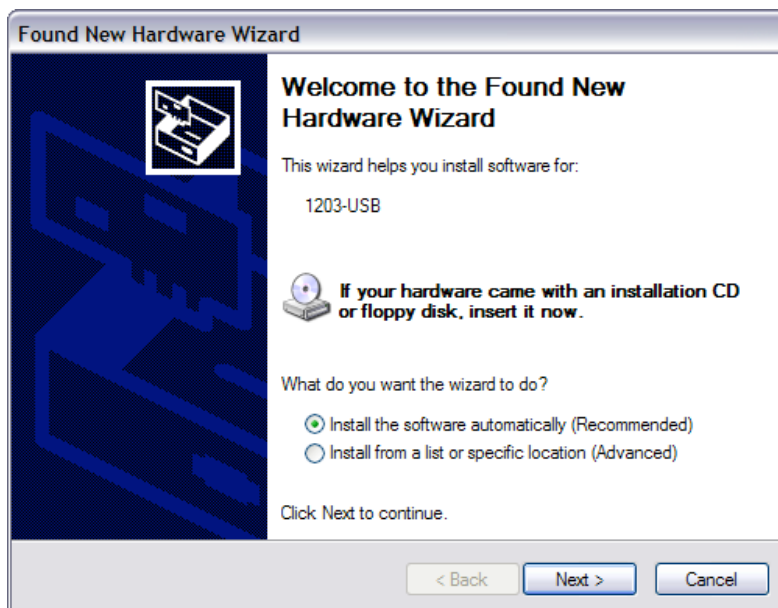
3. After approximately 30-60 seconds, the computer will display the “Found New Hardware Wizard” screen. Install the drivers for the 1203-USB and USB serial port on your computer by following the procedure described in the [Installing the USB Drivers](#) section.

## Installing the USB Drivers

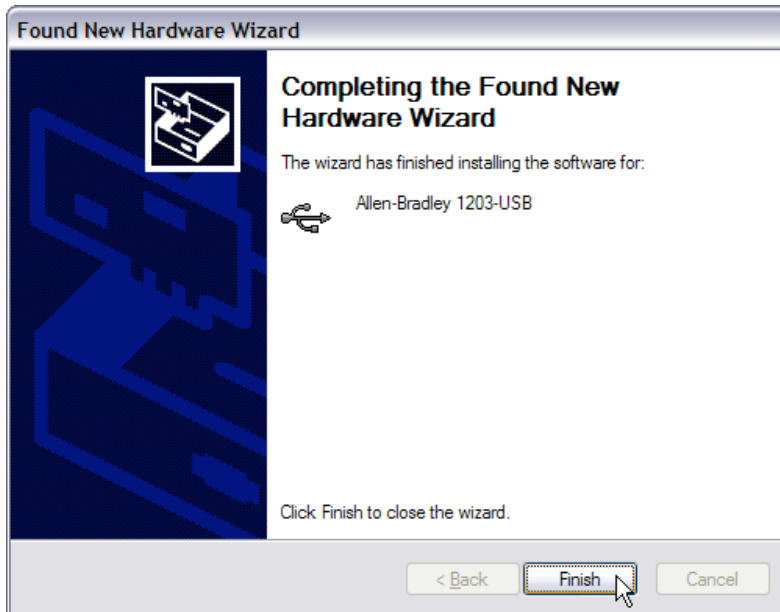
Drivers for the 1203-USB converter and USB serial port are provided on the DriveExplorer Lite CD supplied with the converter. However, for this lab, the drivers are provided on a CD labeled “USB Drivers” for your convenience, but are not yet installed.

These drivers must be installed on the computer to enable it to recognize the 1203-USB when using DriveExplorer or DriveExecutive.

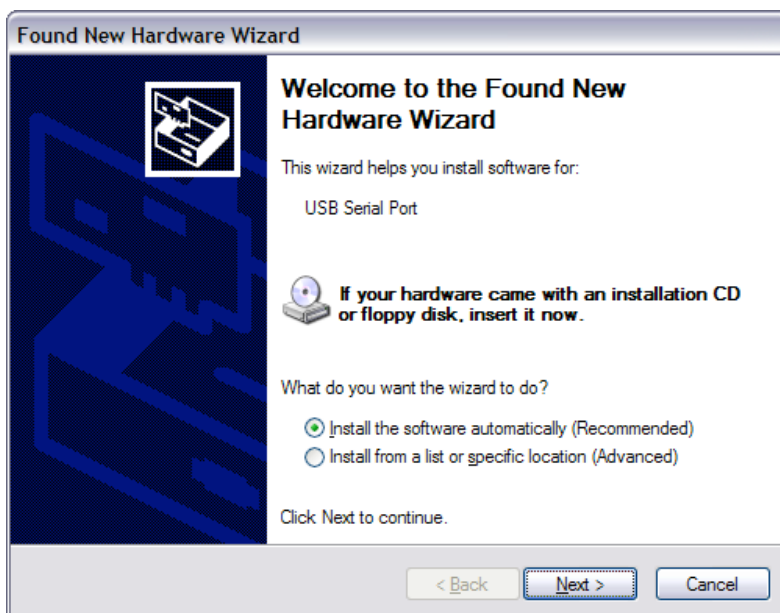
1. After connecting the 1203-USB converter to a powered drive and to the computer, the USB Converter “Found New Hardware Wizard” screen should appear.



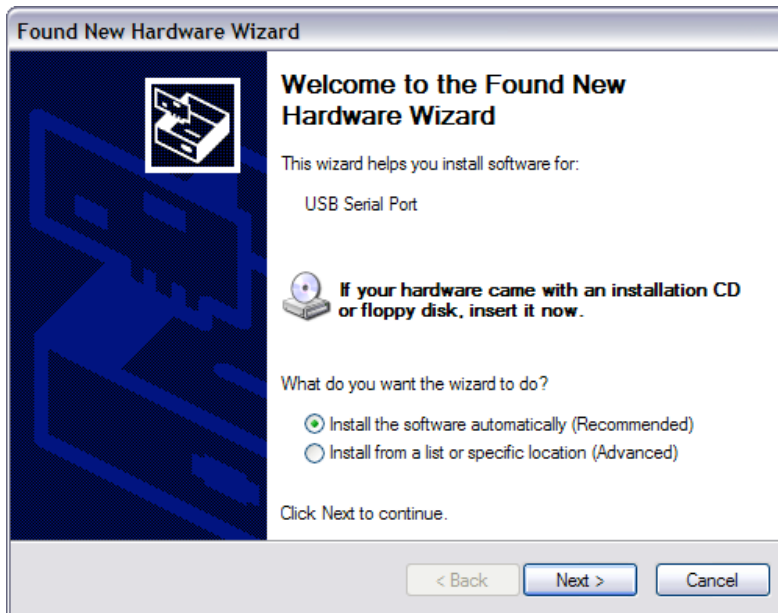
2. Verify that a CD labeled “USB Drivers” is already inserted in the computer. Also, verify the “Install the software automatically (Recommended)” radio button is selected, and then click **Next >**.
3. The computer will search for and load the 1203-USB driver from the inserted CD. After this driver has been successfully installed, a confirmation screen appears. Click **Finish**.



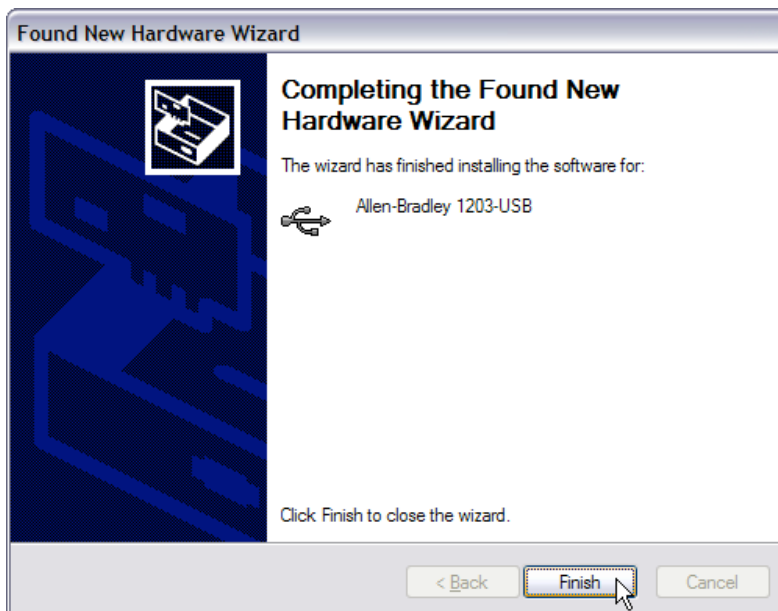
4. After approximately 20 seconds, the USB Serial Port “Found New Hardware Wizard” screen should appear.



5. With the “Install the software automatically (Recommended)” radio button selected, click **Next >**. The computer automatically searches for and loads the USB Serial Port driver from the inserted CD.



6. After this driver has been successfully installed, a confirmation screen appears. Click **Finish**.

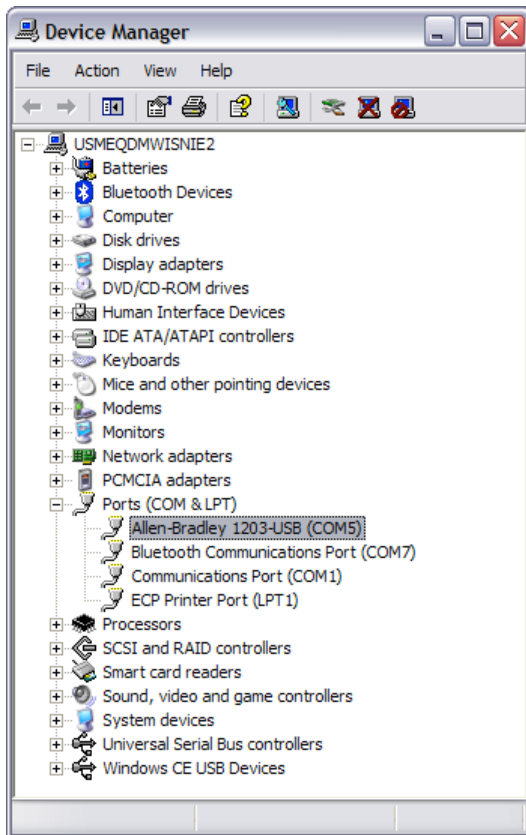


## Identifying the USB COM Port Assignment

The purpose of this section is to help you find out which COM port number was given to the 1203-USB converter after the USB drivers were loaded on the computer.

You will need to obtain and note the COM port number that was assigned during installation of the 1203-USB driver. To do this:


1. Open the Windows Control Panel and double-click on **System**.
2. In the System Properties window, click on the **Hardware** tab and then click **Device Manager**.
3. In the Device Manager treeview, expand the Ports (COM & LPT) group. The assigned COM port is shown in parenthesis at the end of the Allen-Bradley 1203-USB entry.



**FYI:** Unlike the 1203-SSS module and the 22-SCM-232 module, only one (1) 1203-USB converter can be connected to a computer at a time.

## Using the Converter

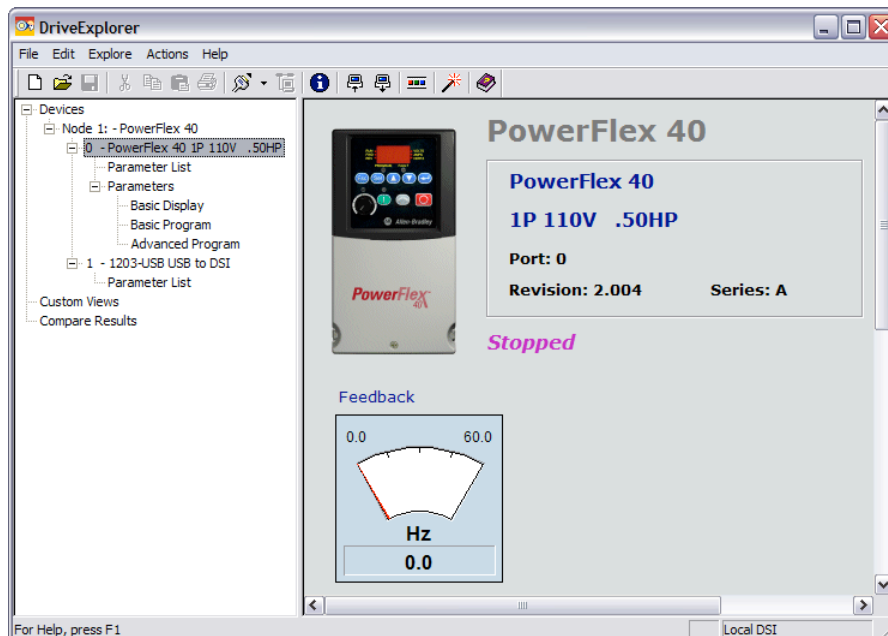
You can use the 1203-USB converter with drive software (DriveExplorer or DriveExecutive) to get online and edit parameters in both the converter and the connected drive. With DPI and DSI drives, you can also edit parameters in any of their attached peripherals.

 **FYI:** DriveExplorer Lite is shipped with the 1203-USB converter at no-extra charge.

## Using DriveExplorer

This section is designed to help you start using DriveExplorer with the PowerFlex 40 drive. If you are unsure how to complete a step, please refer to the software online help (select **Help > Help Topics**).

1. Connect the converter to the PowerFlex 40 drive using the 22-HIM-H10 cable.
2. Launch DriveExplorer.
3. In the DriveExplorer application window, select **Explore > Configure Communication**. Select the COM port noted in the **Identifying the USB COM Port Assignment** section and a baud rate of “115200.” Select either checksum, and accept the default time of the Comm. Timeout. Then click **OK**.
4. Select **Explore > Connect > Serial Point-to-Point**. A node eventually appears in the DriveExplorer Parameter List Window under Devices in the treeview.

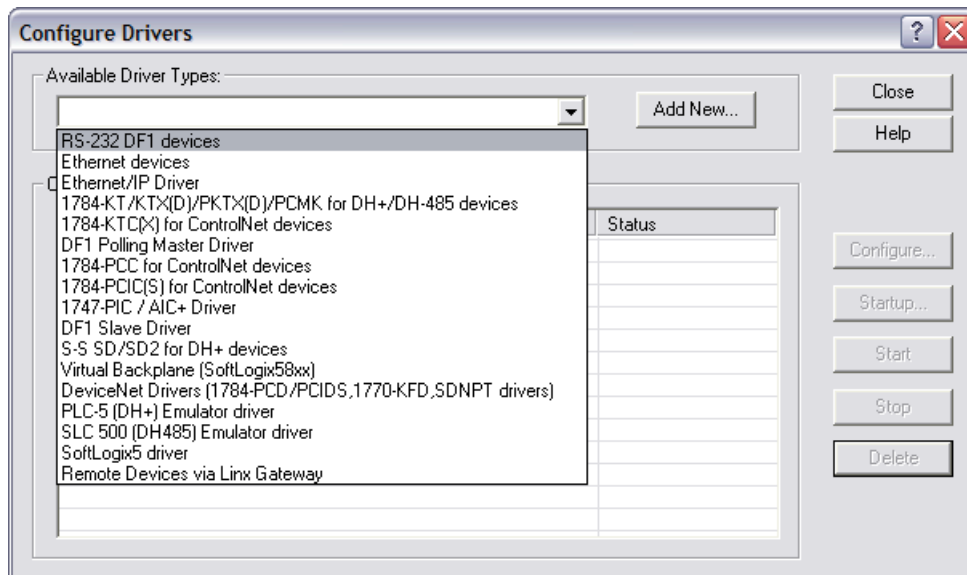


5. In the left pane, click the Parameter List for the 1203-USB converter or connected drive to display its parameters in the right pane. Double-click a parameter to edit it.
6. Close DriveExplorer.

### Using DriveExecutive

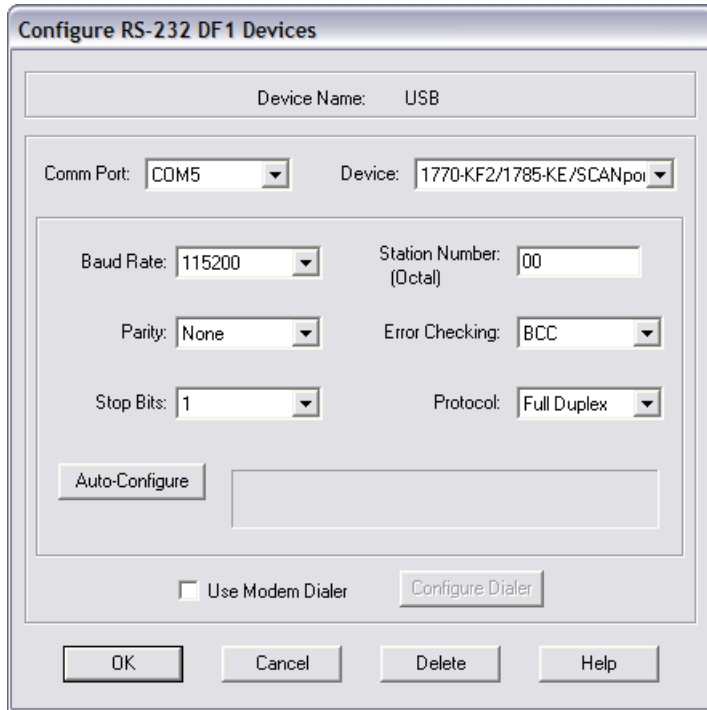
This section is designed to help you start using DriveExecutive with the PowerFlex 70 EC drive. If you are unsure how to complete a step, please refer to the software online help (select **Help > Help Topics**).

1. Connect the converter to the PowerFlex 70 EC drive using the 20-HIM-H10 cable.
2. Launch RSLinx to create a driver to represent the connection on the communication port noted in the **Identifying the USB COM Port Assignment** section.
3. Select **Communications > Configure Drivers...** to display the Configure Drivers screen. From the Available Driver Types pulldown list, select “RS-232 DF1 devices.”



4. After the driver is selected, click the **Add New...** button. The Add New RSLinx Driver screen will appear. Create a name for the new driver (for example, 1203-USB) or use the default name, and click **OK**.

5. The Configure RS-232 DF1 Devices window appears.



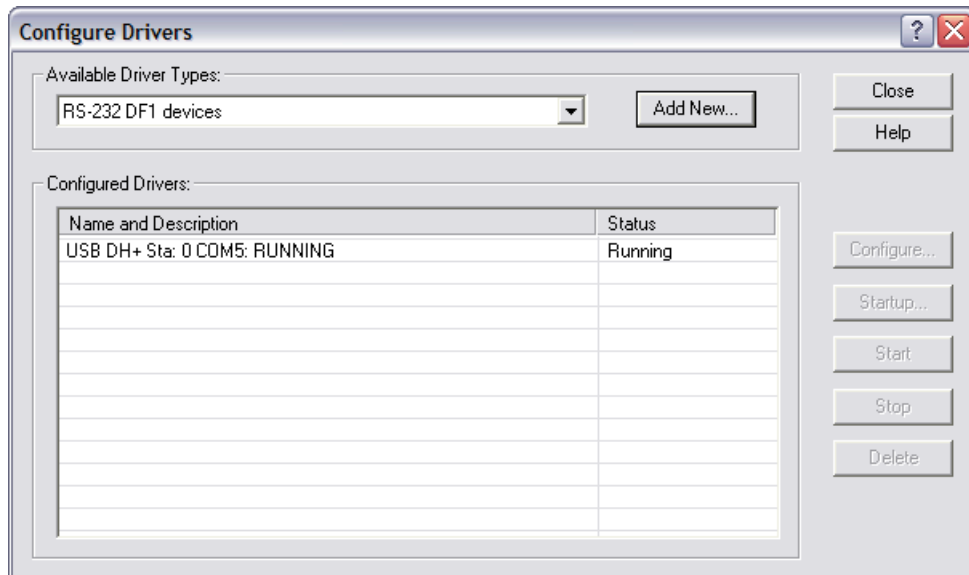
Use the following settings for the Configure RS-232 DF1 Devices window:

Configuration Field	Setting
Comm Port	Select the same COM port established during installation of the 1203-USB driver (noted in Step 1 on Page 12). For this example, COM5 is used.
Device	1770-KF2/1785-KE/SCANport
Baud Rate	115200
Station Number	00 (default)
Parity	None (default)
Error Checking	BCC (default)
Stop Bits	1 (default)
Protocol	Full Duplex (default)

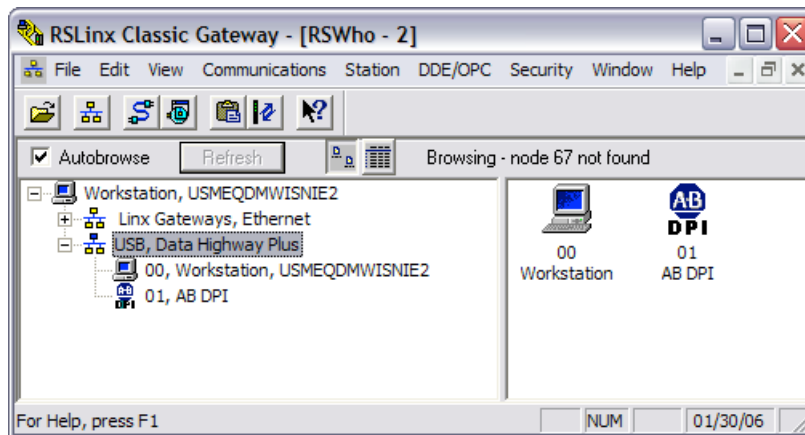
Then click **OK**.



- The Configure Drivers window will re-appear. Verify that the status of the newly created driver is “Running.” Then click **Close**.

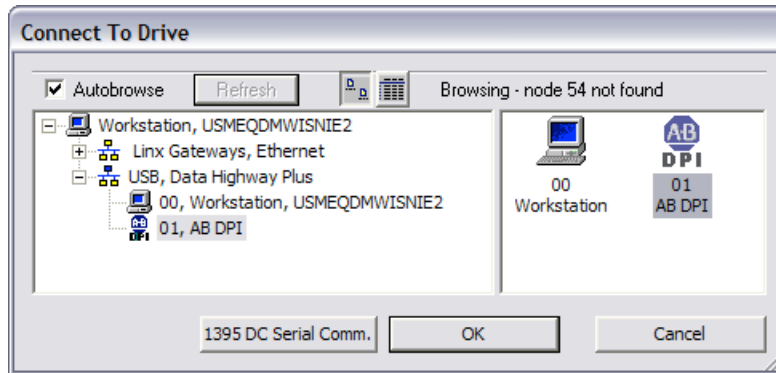


- Select **Communications > RSWho** to display the browse window. Then expand the treeview in the left pane to display the “AB DPI” icon to verify that the driver is communicating with the device.

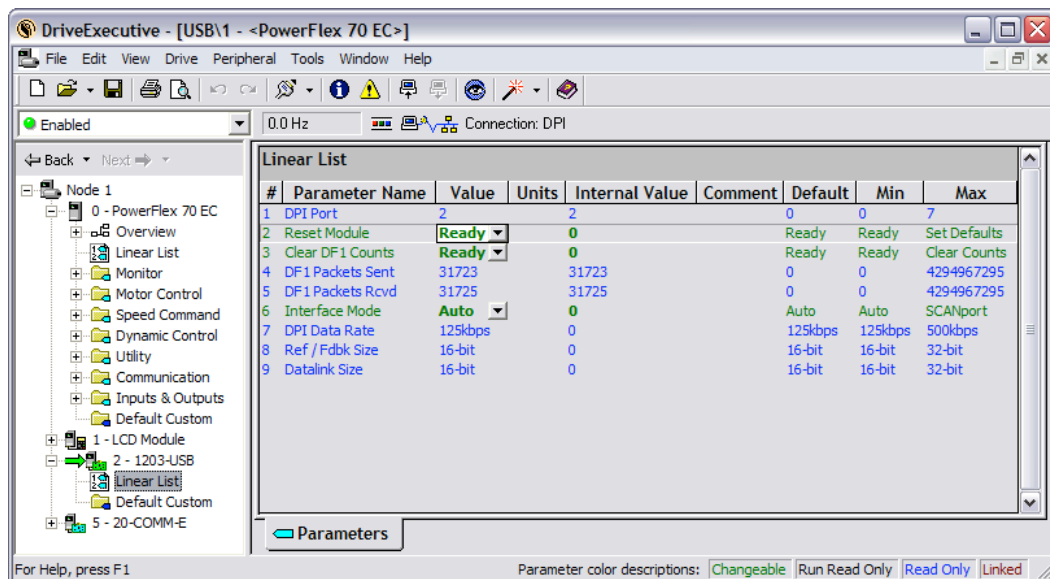


- Close RSLinx.
- Launch DriveExecutive by selecting **Start > All Programs > DriveTools**.

- In the DriveExecutive window, select **Drive > Connect to Drive...** to display the Connect To Drive treeview window. Then expand the treeview in the left pane to display the “AB DPI” icon.



- Select the AB DPI icon in the right pane and then click **OK**. DriveExecutive will begin updating drive information such as parameter names, diagnostics, etc., and store them in a DriveExecutive database directory on the computer established for this purpose.
- In the left pane of the DriveExecutive treeview window, click the **+** signs to expand the tree. For this example, click on “1203-USB” and click “Linear List” to display its parameters in the right pane. To edit a parameter, double-click it or use the Value column pulldown menu.



- Close DriveExecutive.

**This completes the “Using the 1203-USB Converter” lab. Thank you!**