PowerFlex® 753 Drives (revision 1.010)

These release notes correspond to major revision 1, minor revision 10 of firmware for PowerFlex® 753 AC drives.
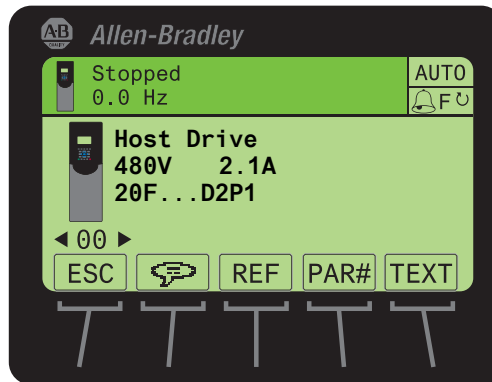
Introduction

The following information is included in this document:

Determining Firmware Revision Level

This section describes procedures to determine the firmware revision of your PowerFlex 753 drive.

Using the Drive LCD HIM

1. Access the Status screen, which is displayed on HIM power up.

Figure 1   Status Screen

2. Use the [4 ◄] or [► 6] key to scroll to Port 00 for the Host Drive.

3. Press the [📁] key to display its last-viewed folder.

4. Use the [4 ◄] or [► 6] key to scroll to the DIAGNOSTIC folder.

5. Use the [▼ 2] or [8 ▲] key to select **Device Version**.

6. Press the [5] (Enter) key to display device version information.

FW Revision is listed under –Main Control Board; see Figure 2.

Figure 2   Device Version Information Screen
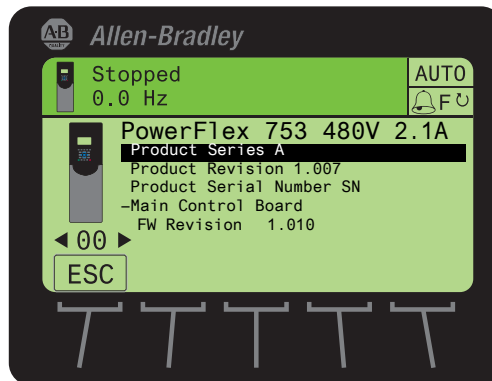
Using DriveExplorer Lite/Full

Important: You need DriveExplorer version 6.02 or later to interface with the PowerFlex 753 drive. To obtain the latest version, visit the Allen-Bradley Web Updates site located at http://www.ab.com/support/abdrives/webupdate.

1. Launch DriveExplorer and go online with the PowerFlex 753 drive. To connect to the drive, use a 1203-USB converter, a 1203-SSS converter, or an EtherNet/IP network connection.

2. In the Devices hardware view, select the PowerFlex 753 drive.

   Once selected, information regarding the PowerFlex 753 drive is shown in the right panel including the current firmware revision number.
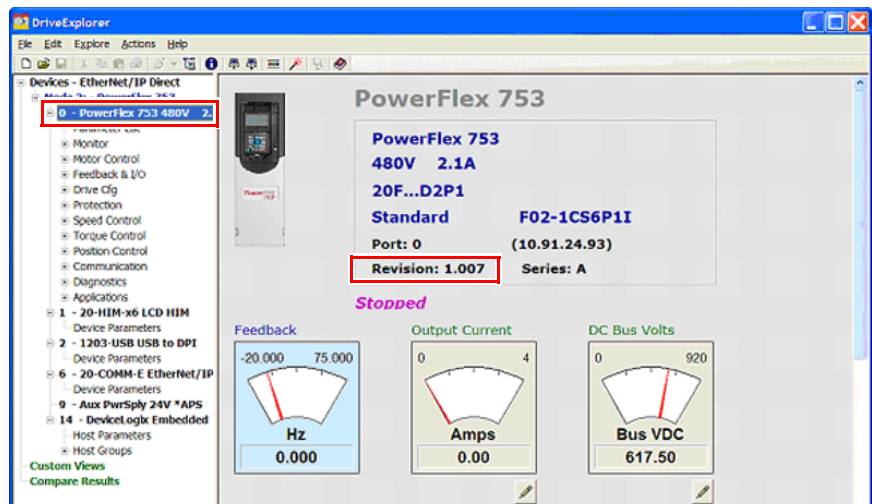
Using DriveExecutive

Important: You need DriveExecutive version 5.02 or later to interface with the PowerFlex 753 drive. To obtain the latest version, visit the Allen-Bradley Web Updates site located at http://www.ab.com/support/abdrives/webupdate.

1. Launch DriveExecutive and go online with the PowerFlex 753 drive. To connect to the drive, use a 1203-USB converter, a 1203-SSS converter, or an EtherNet/IP network connection.

2. In the Drives hardware view, select the PowerFlex 753 drive (❶ in).

3. Click the information icon (❷ in) to display the drive's Properties dialog box.

4. In the Properties dialog box, the "Revision:" field (❸ in) will show the drive's current firmware revision number.

**Figure 3   PowerFlex 753 Drive Information Accessed Through DriveExecutive**
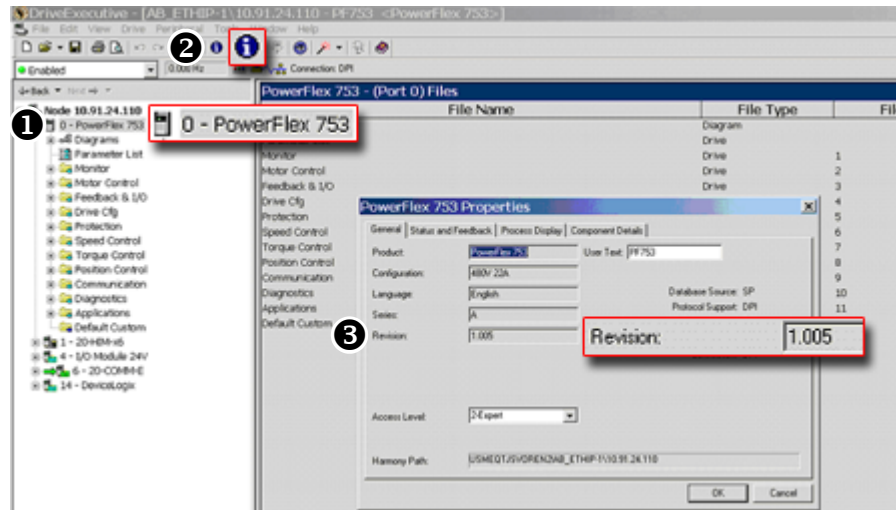
Firmware Flashing

This section describes procedures to flash upgrade your drive firmware. Flash kits for drives are provided on the Allen-Bradley Web Updates site located at http://www.ab.com/support/abdrives/webupdate.

Flashing can be performed using a 1203-USB or 1203-SSS converter. For information on connecting either converter to your drive, refer to the 1203-USB USB Converter User Manual, publication DRIVES-UM001 or the 1203-SSS Smart Self-powered Serial Converter User Manual, publication 20COMM-UM001.

Installing the Flash Kit

1. Install the flash kit utility from the Allen-Bradley Web Updates site for the PowerFlex 753 drive, which includes the latest version of the ControlFLASH utility and deploys firmware files for using HyperTerminal on your computer.

2. You are now ready to use DriveExplorer, DriveExecutive, ControlFLASH or HyperTerminal to update the drive. Refer to the respective section and follow the instructions.
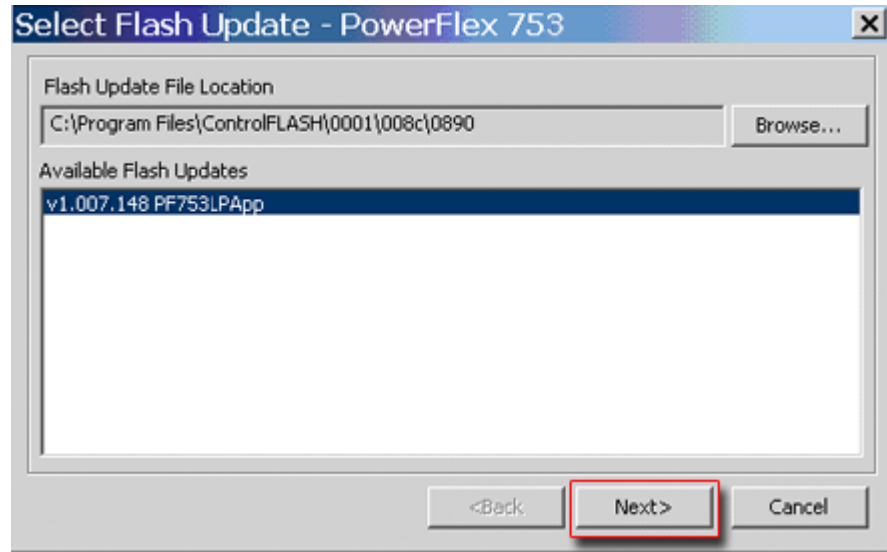
Using DriveExplorer Lite/Full to Flash Update

1. With the Flash Kit installed (see Installing the Flash Kit), launch DriveExplorer and go online (via a 1203-USB or 1203-SSS converter) with the PowerFlex 753 drive.

2. In the Drives hardware view, select the PowerFlex 753 drive (❶ in Figure 3 on page 4).

3. Click the information icon (❷ in Figure 3) to display the drive's Properties dialog box.

4. In the Properties dialog box, click the Details tab.

5. With the Main Control Board selected, click **Flash Update**.
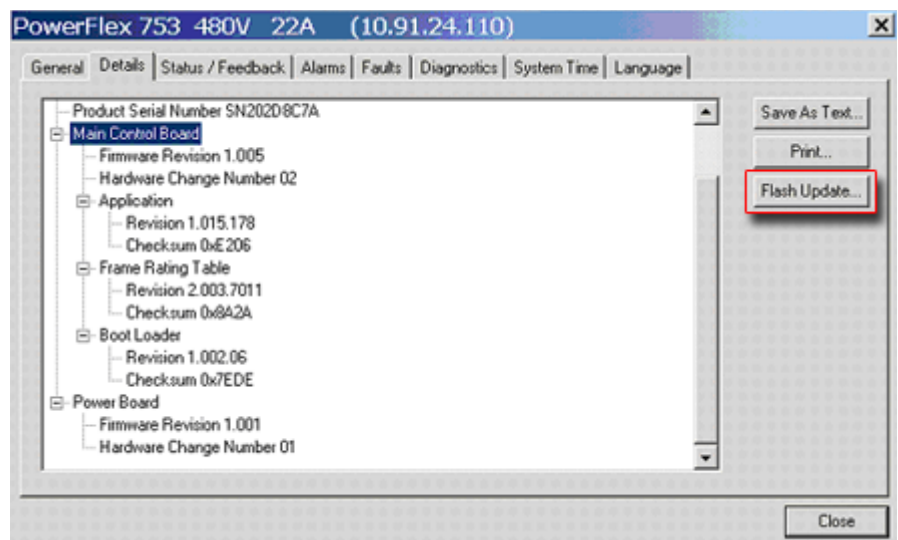
Important: Flash updating the device firmware may cause the device to load defaults. It is recommended that you save the setting to your PC before proceeding.

6. From the list of available updates, select "v1.007.*xxx*" and click **Next >**.

7. Follow the remaining prompts until the flash update procedure completes and displays the new firmware revision.

Using DriveExecutive to Flash Update

1. With the Flash Kit installed (see Installing the Flash Kit), launch DriveExecutive and go online (via a 1203-USB or 1203-SSS converter) with the PowerFlex 753 drive.

2. In the Drives hardware view, select the PowerFlex 753 drive (❷ in Figure 3 on page 4).

3. Click the information icon (❸ in Figure 3) to display the drive's Properties dialog box.

4. In the Properties dialog box, click the Component Details tab.

5. With the PowerFlex 753 drive selected, click **Flash Update**.

6. From the list of available devices, select the PowerFlex 753 drive and click **Next >**.

Important: Flash updating the device firmware may cause the device to load defaults. It is recommended that you save the setting to your PC before proceeding.
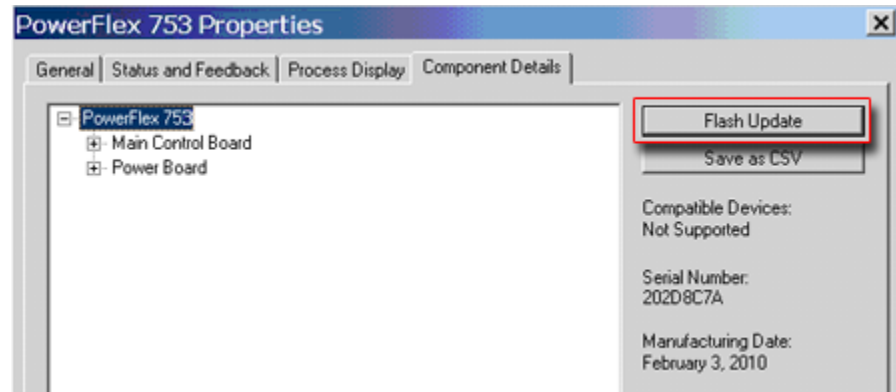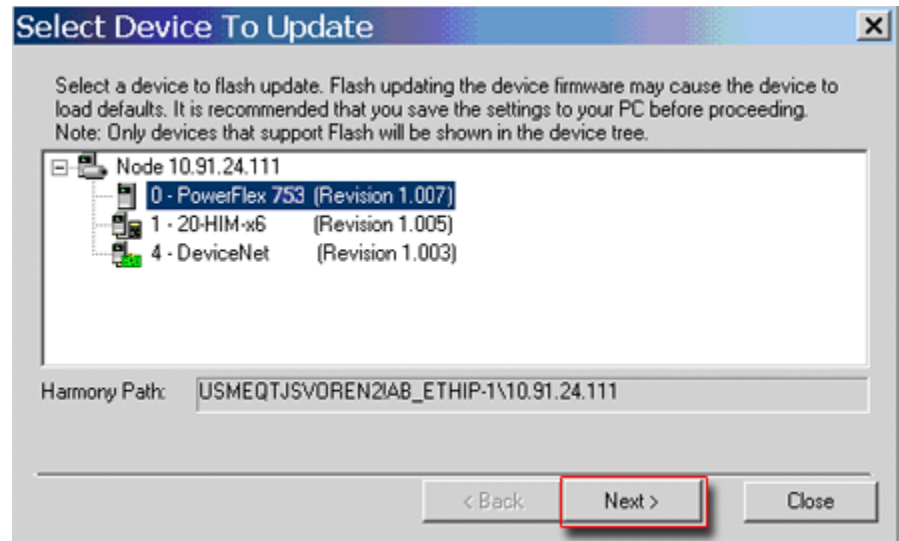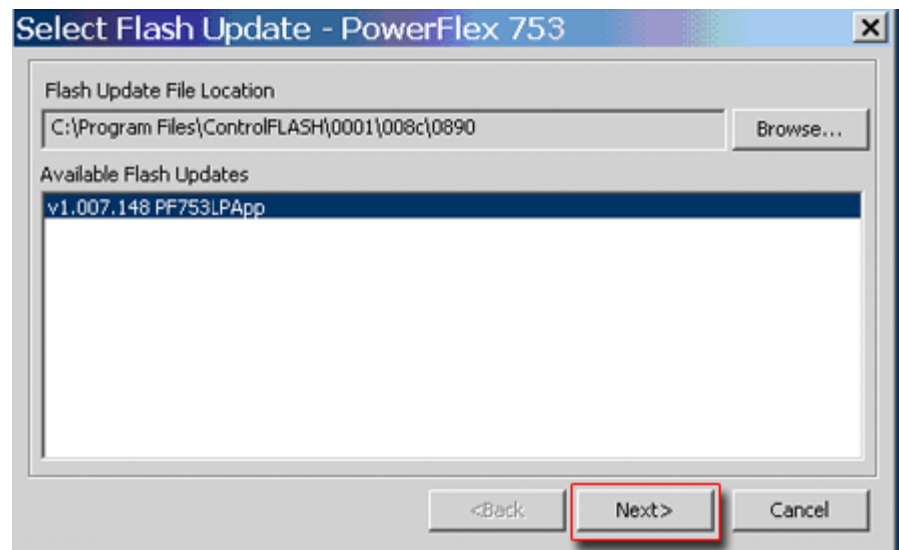
7. From the list of available updates, select "v1.007.xxx" and click **Next >**.

8. Follow the remaining prompts until the flash update procedure completes and displays the new firmware revision.

Using ControlFLASH to Flash Update

1. With the Flash Kit installed (see [Installing the Flash Kit on page 4](#)), launch ControlFLASH by selecting **Start > (All) Programs > Flash Programming Tools > ControlFLASH**.

2. On the ControlFLASH Welcome dialog box, click **Next >**.

3. The Catalog Number dialog box appears. From the list, choose the communication device you will use to update the PowerFlex 753 drive. In the figure below, the embedded EtherNet device is selected.

    Once the appropriate communication device is selected, click **Next >**.
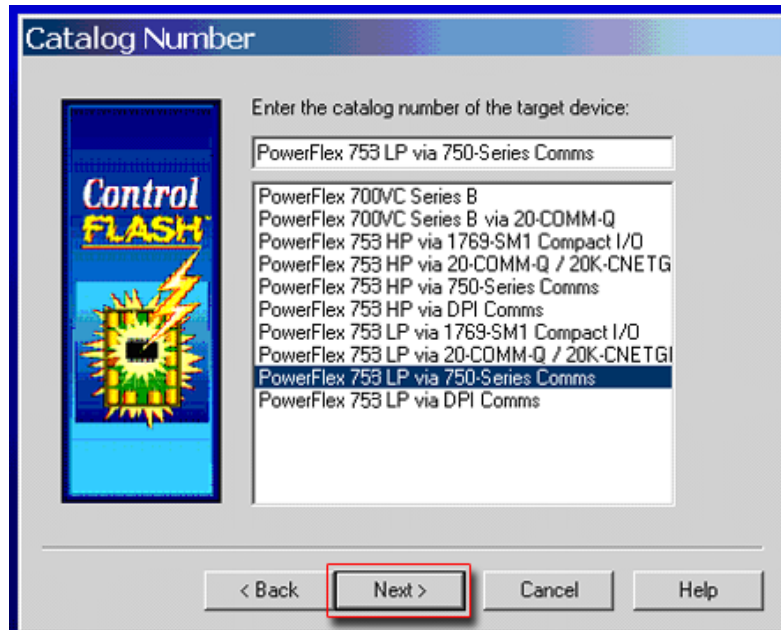
4. Now that the correct communication device has been selected, you must select which device is being updated. With the Select the PowerFlex… dialog box displayed, follow these steps.

    a. Expand the hardware view for the communication path you are using (❶ in Figure 4).

    b. Select the drive icon that represents the PowerFlex 753 drive you are updating (❷ in Figure 4).

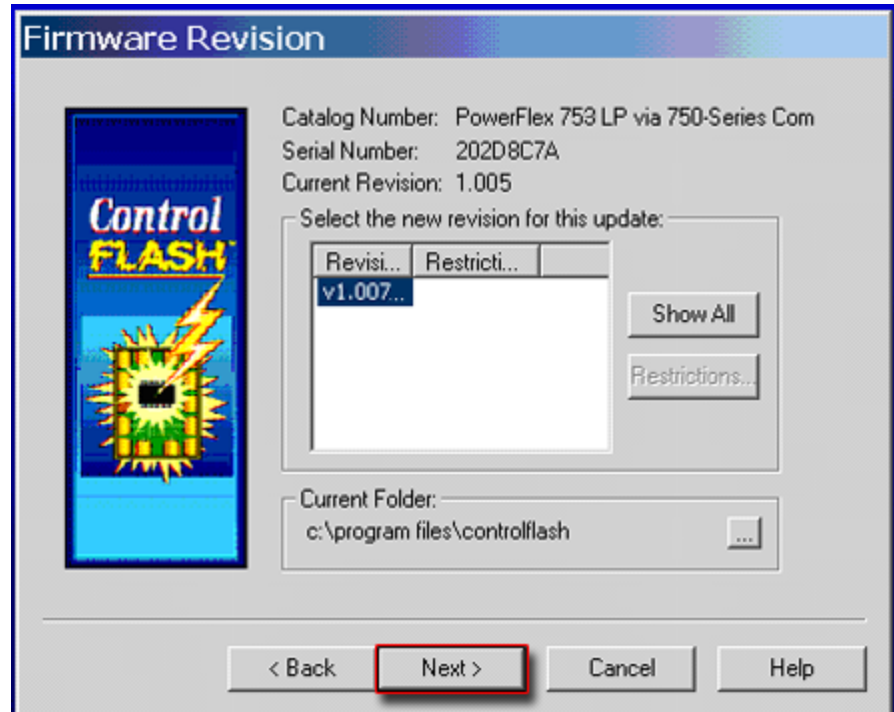   **c.** Click **OK** (❸ in Figure 4).

Figure 4   Selecting the Correct Drive to Flash
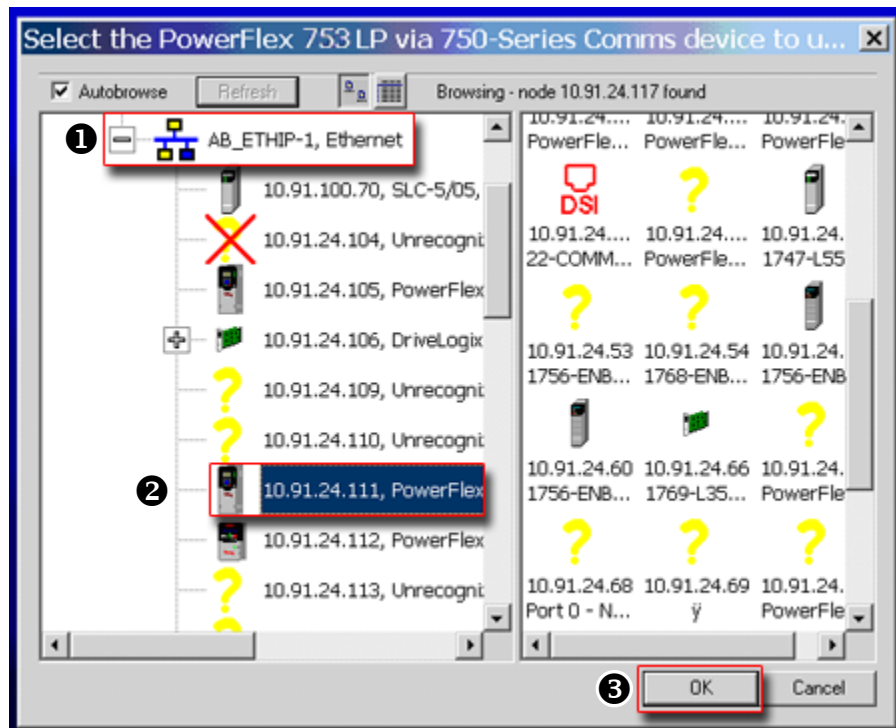
5. In the Multiple Assemblies Found display box, select "Port *x*-PowerFlex 753" from the list and click **OK**.
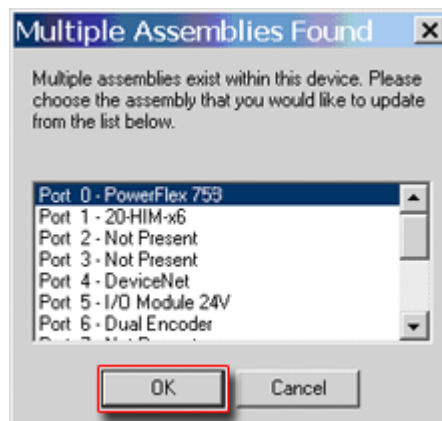
6. In the Firmware Revision dialog box, select "v1.007…" from the list of available updates and click **Next >**.
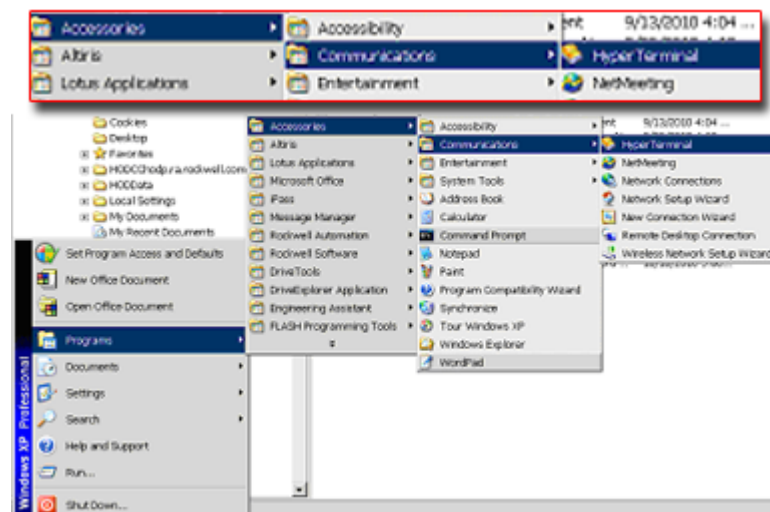

7. Follow the remaining prompts until the flash procedure completes and displays the new firmware revision number.
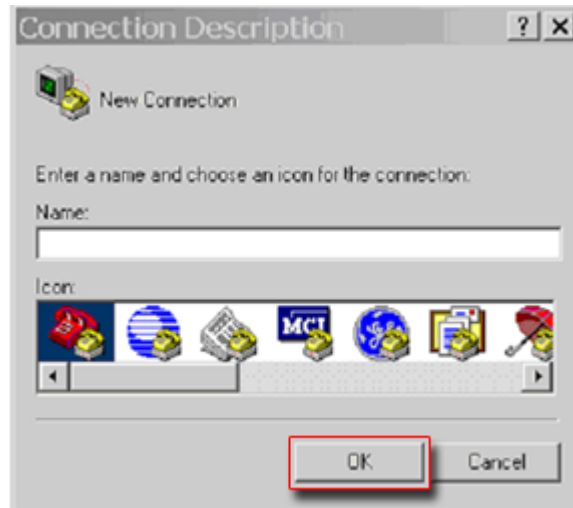
Using HyperTerminal to Flash Update

> **Important:** The HyperTerminal process **takes at least one hour to complete.**

1. With the Flash Kit installed (see), access and launch HyperTerminal as shown below.

2. A New Connection dialog box appears.

    a. Enter the connection device name in the Name field or select an icon from the library.

    b. Click **OK** once you have finished.

3. A Connect To dialog box appears,

    a. Use the "Connect using:" drop-down menu to select the appropriate connection device.

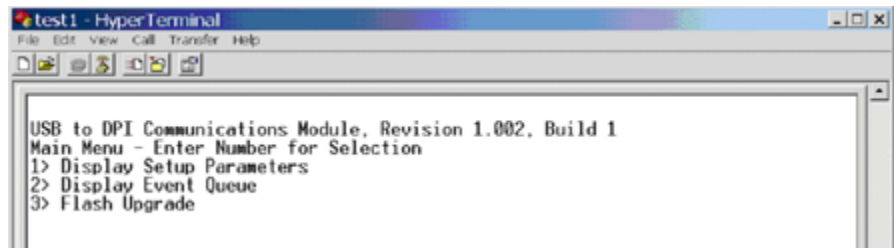   **b.** Click **OK** once you have finished.
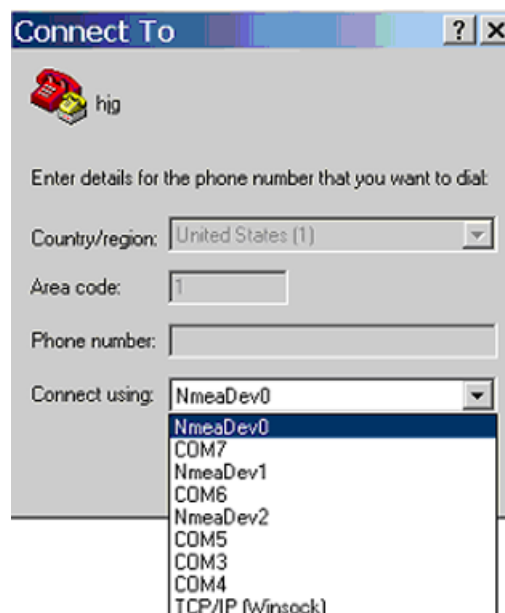
4. A Properties dialog box will appear for the selected connection device.

    a. Use any of the drop-down menus to change the various port settings.

   **b.** Click **OK** once you have finished.
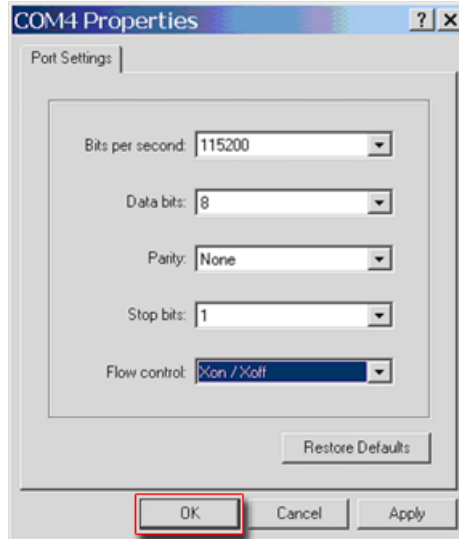
5. After you click OK, you will get a blank screen.

Press **Enter** on your computer keyboard so the following test screen appears.

6. From the Main Menu, select the flash upgrade (❶ in) by pressing the number **3** key on your computer keyboard.

7. Additional text appears. From the Flash Upgrade menu, select the PowerFlex 753 drive (❷ in) by pressing the number **0** key on your computer keyboard.

8. Additional text appears. After reading the conditions, select Yes (❸ in) to proceed by pressing the letter **Y** key on your computer keyboard.

**Figure 5   HyperTerminal Test Screen Dialogue**
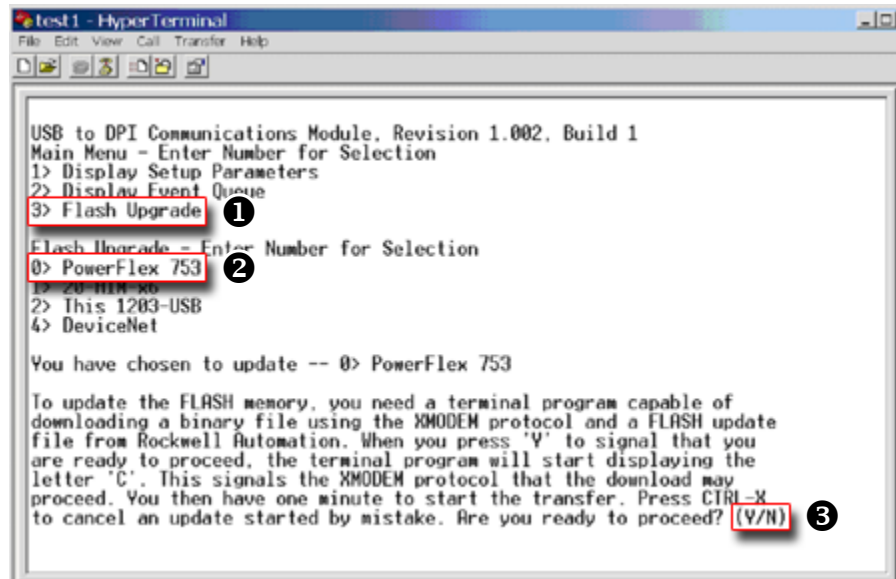
The terminal program will start displaying the letter "C". This signals the XMODEM protocol that the download may proceed. You then have one minute to start the transfer.
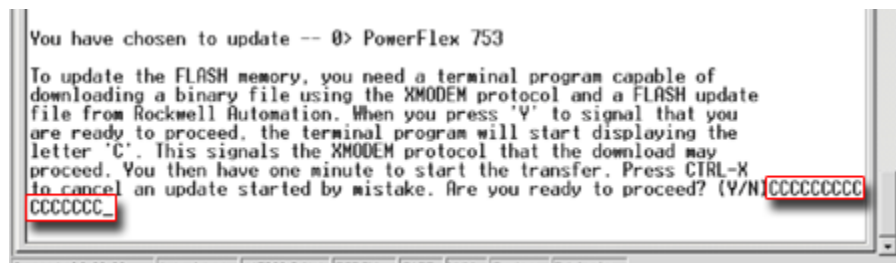
Important: You have one minute to complete steps 9…14 or HyperTerminal will return to step 5, where you must repeat steps 5…8.

▶   **TIP:** To cancel the flash update at any time, press **CTRL-X**.

9. Select **Transfer > Send File** to display the Send File screen.
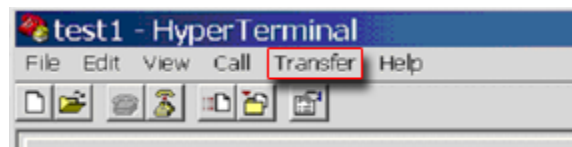


10. Click **Browse** and navigate to
C: > Program Files > ControlFLASH > 0001 > 0086 > 0490

11. Search through the subfolder until the "PF753_LP_App_v1_007_*xxx*.dpi" file appears in the Select File to Send list.

12. With the file name highlighted, click **Open** so it appears in the Filename data field in the Send File dialog box.
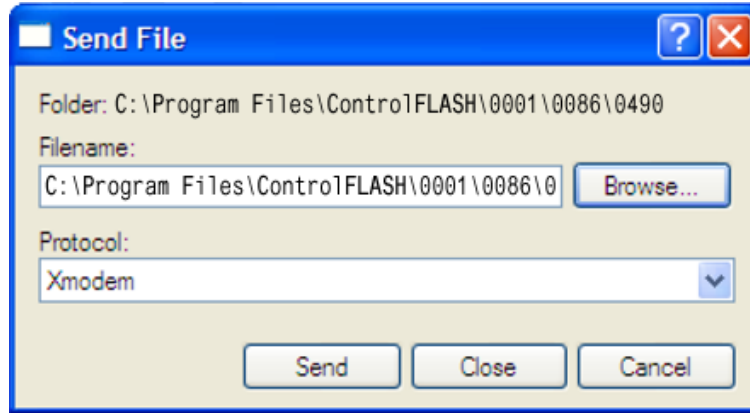
13. In the Protocol box, select "Xmodem."

14. Click **Send**.

A dialog box appears and reports the progress of the update. **This process takes at least one hour for HyperTerminal to complete.** When it is complete, the message "Flash Complete" appears.
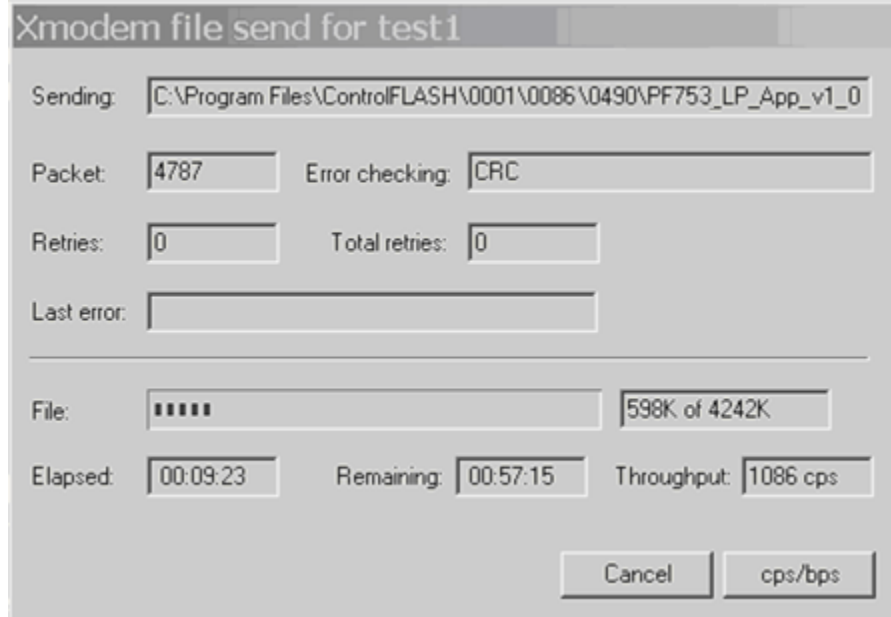
15. Press any key to continue.

16. Press the **Enter** key to return to the main menu.

Enhancements

There are no enhancements included in this revision.

Corrected Anomalies

This section describes the anomalies corrected in this revision.

Analog Checksum Fault

The drive would experience an F108 Anlg Cal Chksum fault. This would require you to replace the drive's main control board. This anomaly was related to the way the drive handled Non-Volatile Storage (NVS).

If this anomaly occurs on a drive with a previous revision, you must replace the main control board. Upgrading the existing main control board to this revision does not remediate the checksum failure.

Non Volatile Storage

If thirty two faults occurred within one power cycle (time from when drive is energized until time it is de-energized) the drive would experience a Background Stall fault and the parameters stored in Non Volatile Storage (NVS) would be lost. The STS LED would flash red in a "24-blink" pattern to indicate the Background Stall fault. All parameters would revert to their default values.

HIM CopyCat Download

The values of parameters 301 [Access Level] and 302 [Language] would return to their default values after a HIM CopyCat download, regardless of the values stored in the HIM CopyCat upload.

Improper Calculation of Negative Torque Limit for Oil Well Pump Configurations

If pump jack functionality was enabled (parameter 1179 [OilWell Pump Cfg] set to 1 = Pump Jack), the drive would improperly calculate the value of parameter 671 [Neg Torque Limit] after a power cycle.

Known Anomalies

This section describes the anomalies that are known to exist in this revision of firmware.

Slip RPM Calculation

The drive will sometimes reset the value of parameter 621 [Slip RPM at FLA] to the default value on power-up.

Restrictions

There are no restrictions for this firmware revision.

Rockwell Automation Support

To assist you, Rockwell Automation provides technical information on the web. At http://www.rockwellautomation.com/support, you can find technical manuals, a knowledge base of Frequently Asked Questions (FAQs), technical and application notes, sample code and links to software service packs, and a MySupport feature you can customize to best use these tools.

Rockwell Automation also provides complimentary phone support for drives, option modules, and peripherals. If you experience a problem with the option module, please review its documentation. For further help, contact a Customer Support representative:

United States	(1) 262.512.8176 Monday – Friday, 7am – 6pm CST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect Support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/support.