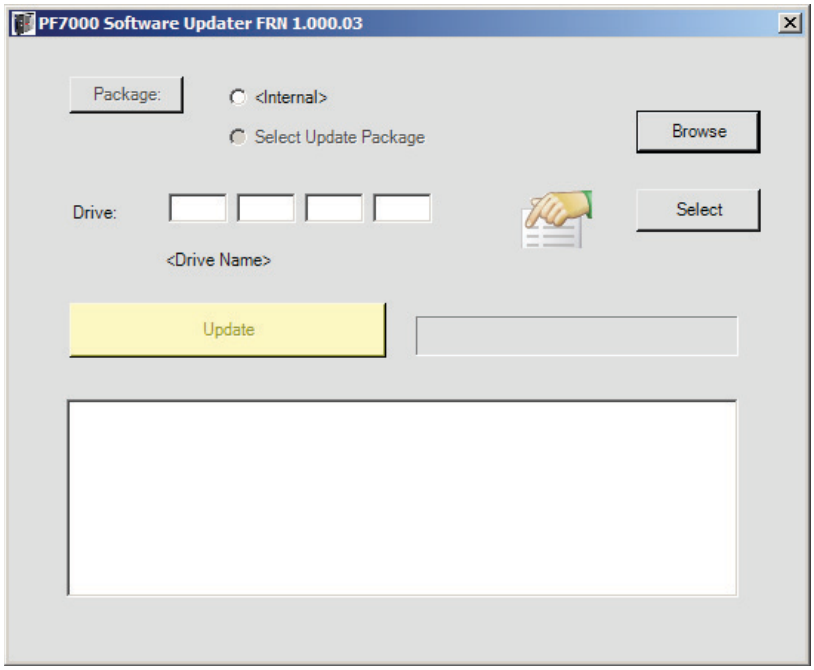
Figure 73 - Package Updater



Update the HMI Board

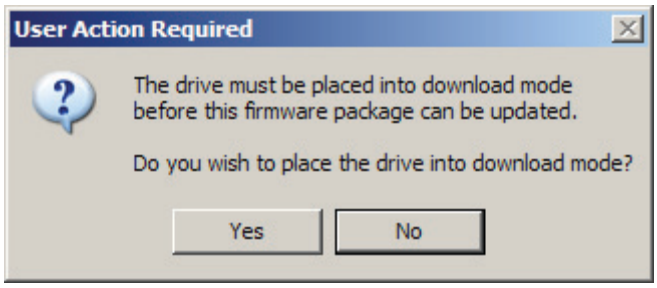
1. Open the Package Updater utility (Figure 73).

   See the Windows Explorer section under Drive Menu on page 22.
2. Enter the IP address of the drive in the fields, or press Select to choose from a list of discovered drives.

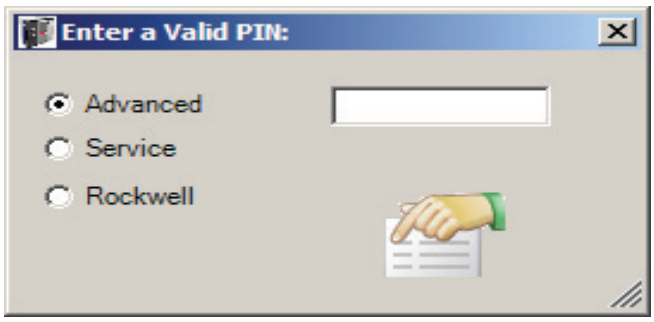
   Once selected, the Drive's name (if configured) is displayed to confirm the entered IP address. If using an external file, press Browse and select the appropriate file.

Once the desired IP address of the drive is either selected or entered, the drive must be placed in Download Mode.

3. Click Internal, and click Update.



4. Click Yes, and enter the appropriate PIN value for the desired access level.

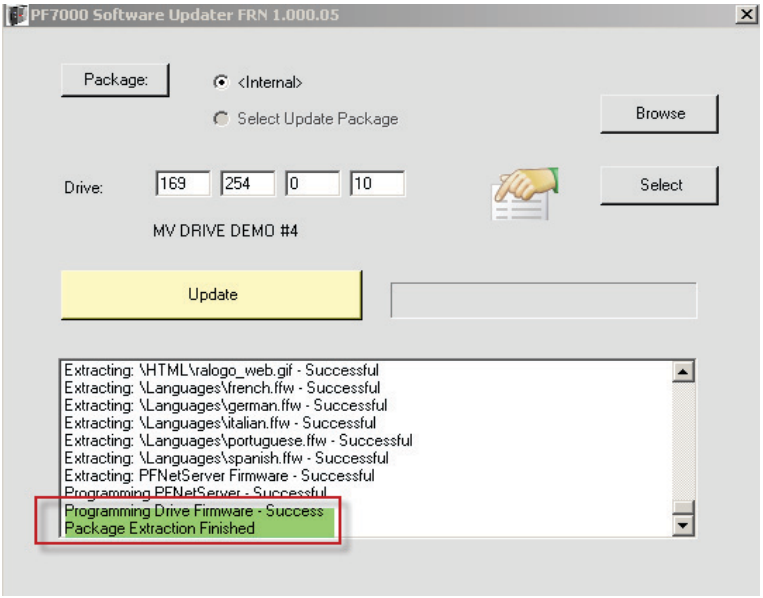


The PIN codes that are required for the firmware download are the same PIN codes that are used in the operator interface. Unless changed, the Advanced PIN is 0 by default. If an incorrect PIN is entered, the update process must be restarted.

5. Press Enter on the keyboard.

   A bar graph shows the progress of the file transfer to the HMI board. A status window under the Update button shows information about the update progress.

   Once the entire Package has been downloaded, the HMI board performs a validation process on the contents.



   Status strings provide information about each step in the process:

   - Validating each file
   - Extracting each file
   - Completion status

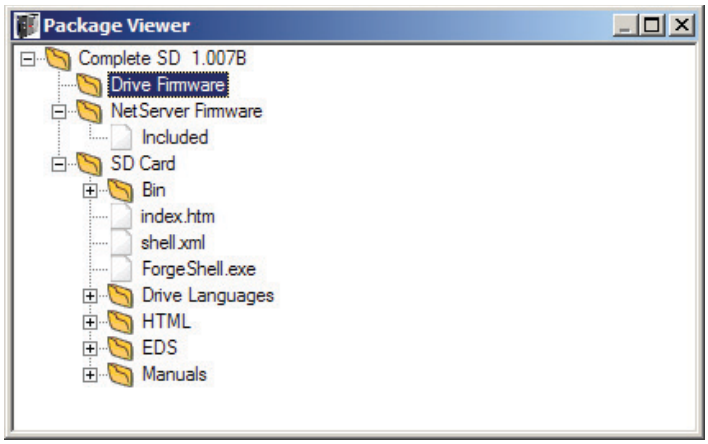
   If any of the contents fails validation, or the drive isn't in download mode to accept an included .FFW file, the entire process is aborted.

6. Press Update.

The package contents of the either selected option can be previewed by pressing the Package.

The package dialog (Figure 74) shows the contents of the SD Card that will be created or updated on the HMI board module. Drive firmware and HMI board firmware is also included in the package if so stated. In the provided example, the HMI board firmware is updated, but no update is contained for the drive firmware.

Figure 74 - Package Viewer

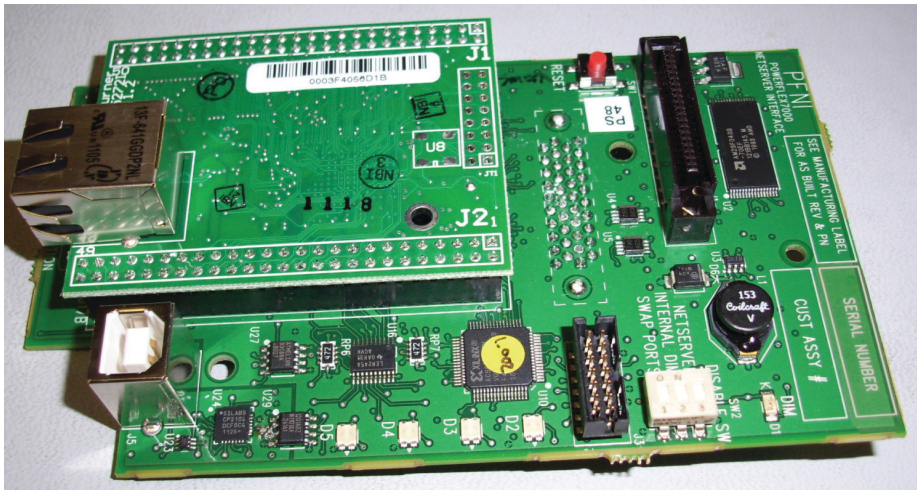


Hardware

Introduction

The HMI board module (Figure 79) consists of two circuit boards. The base board is the PFNI (PowerFlex® Network Interface Board). It contains a socket into which the processor module (NetBurner) connects into. This assembly is collectively referred to as the HMI board. The HMI board (Part no. 80190-780-01-R) connects into the DPM (Drive Processor Module) and becomes part of the drive control platform.

Figure 79 - HMI Board Module



DIP Switch Settings

The DIP switches (SW2), on the PFNI board, perform the following functions.

Switch 1: Swap Port

On	Port 0 is on USB
Off	Port 1 is on USB
Default	OFF

Port 0 is a diagnostic port which is available on either J3 as a standard USART port or the USB Port. When this switch is OFF, the diagnostic port is on the J3 connection. The J3 connection is used exclusively for development and diagnostic testing. Port 1 is a port to replace the functionality of the J4 Data port on the DPM for PCs that do not have a serial port (for future use).

Unless directed by Rockwell Automation, this switch will always be in the Default position.

Switch 2: Internal DIM

On	Internal DIM disabled
Off	Internal DIM enabled
Default	Off

The PFNI has a built in DIM as well as a socket for an external DIM. When the external DIM is plugged in, it's always active, regardless of this switch setting. When the internal DIM is in use, this switch allows for the rare occasion that it must be disabled. When there's no DIM in use (internal or external), the RED LED D1 marked as 'DIM' is illuminated.

SD Card Socket

This socket contains an SD Card used to store most files that are available via the HMI board.

IMPORTANT	This card shouldn't normally be removed. Removing the card reduces the functionality of the HMI board.

The SD Card contains a Write Protect Tab. When the Tab is in the upper position (tab on the left of the card), the card can be written to. If you want to protect against any updates to the drive over the network, this tab can be set to the lower position. The lower position is a write protect position and no contents on the card can be modified.

Upper Position	Card is open for writing
Lower Position	Card is write-protected

Network Protocols

The HMI board module is an Ethernet device. The network must allow certain ports to be accessed on PCs or Terminals that interact with the HMI board.

IMPORTANT	Security of a network is the responsibility of the IT department that maintains the network in the application of the device. The HMI board does not provide any form of firewall protection. See Converged Plantwide Ethernet (CPwE) Design and Implementation Guide, publication ENET-TD001, and Ethernet Reference Manual, publication ENET-RM002, for further guidance.

This section describes the Ethernet protocols and ports that are used by the HMI board.

TCP Ports 20 & 21

The FTP (File Transfer Protocol) performs the main file transfer mechanism between a PC/Terminal and the HMI board module that allows tools such as Microsoft Windows® Explorer to be used.

TCP Port 80

The HTTP (Hyper Text Transfer Protocol) is the method by which web pages and executable modules are retrieved from the HMI board. This allows a standard browser such as Microsoft Internet Explorer to be used.

TCP Port 44818

The Ethernet/IP port is used by various tools to interact with the PowerFlex 7000 drive. The HMI board contains only a subset of the Ethernet/IP protocol in that it only supports the DPI protocol that is embedded within the PCCC packets.

UDP and TCP Port 20034

These ports are designated as the NetBurner ports. They are required for the 'Discovery' process to find HMI board modules on a network, and to configure those modules.

UDP Port 514

This SysLog port provides status from the HMI board module while it is being updated with new information to the SD Card.

Base Discovery The directory where .XML files are stored by default. When the application is launched from a remote device, a directory named "Temporary Internet Files' will be created on the local terminal. Within this directory, will be subdirectories that are named according to the IP address of the remote device. This subdirectory that corresponds to the IP address is the Base Directory. If the application was launched locally, then the base directory is the directory where this application was found.

Combo Box A combo box displays both information for the current selection, and a drop-down list of available selections. It allows you to pick from a number of options.

DHCP (Dynamic Host Configuration Protocol) A DHCP server automatically assigns an IP address to a device on the network if that device is configured for dynamic addressing. Although this method is easy to set up a device, the assigned address isn't easily determined and can change over time. For this reason, Static IP addressing is recommended for an HMI board module, whereby the IP address is permanently assigned to the module.

Dialog A window that is popped up to allow operator interaction. While a dialog is open, no other operations can be performed on the terminal until the current dialog is completed or closed.

DIM (Drive Identity Module) This module contains the factory default values for the parameters. The factory defaults are customized to a particular drive order at the time of manufacturing. The DIM also contains a mirror image of parameters that are saved to the drive's NVRAM. In the event of the NVRAM is found to be corrupt, this mirror image is restored to the NVRAM. It also allows the saved NVRAM information to be physically moved to another drive or new control boards.

DPM (Drive Processor Module) The main control board of the drive. This board contains all processors, memory, and intelligent peripherals.

Dynamic IP Address An address that has been assigned by a DHCP Server. This address can change each time the device's power is cycled.

MAC (Media Access Control) Every Ethernet device has a unique ID (i.e. address) which identifies it on a network. This ID can be read from the white barcode on the HMI board module. It's only required when the HMI board is being configured with an IP address.

Radio Button A user interface component that allows only the selection of one exclusive option from a group of options.

SD (Secure Digital) Card This memory card is in the HMI board module and stores most of the files that are provided by the HMI board module.

Static IP Address An address that has been manually assigned to a device. This IP address never changes when power to the device is cycled.