Software Upgrade Procedure

Smartpack2 Touch Controller

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1. Introduction

This document describes the tasks required to upgrade the software of the Smartpack2 Control System in Eltek Power Systems. The procedures allow you to perform the upgrade on site or remotely.

The procedures describe the following upgrade methods:

- USB Memory stick as the preferred method, for on-site updates
- The free version of Eltek Network Utility (ENU), as an alternative method to upgrade the Smartpack2 Touch Controller only, when upgrading remotely.
- FTP (optional method) using a third-party FTP client to transfer files to the internal memory of the controller and initiate the update(s) remotely through the web browser interface.

A typical Smartpack2 based control system consists of: Smartpack2 Touch Controller, Smartpack2 Basic or Basic Industrial Controller, IO Monitor, Battery Monitor, and Load Monitor.

Multiple Smartpack2 Basic Industrial Controllers may be found in more complex telecommunications and industrial power systems, in which the rectifier bays precede the distribution bays.

The following figure represents a typical control system in a large power system.

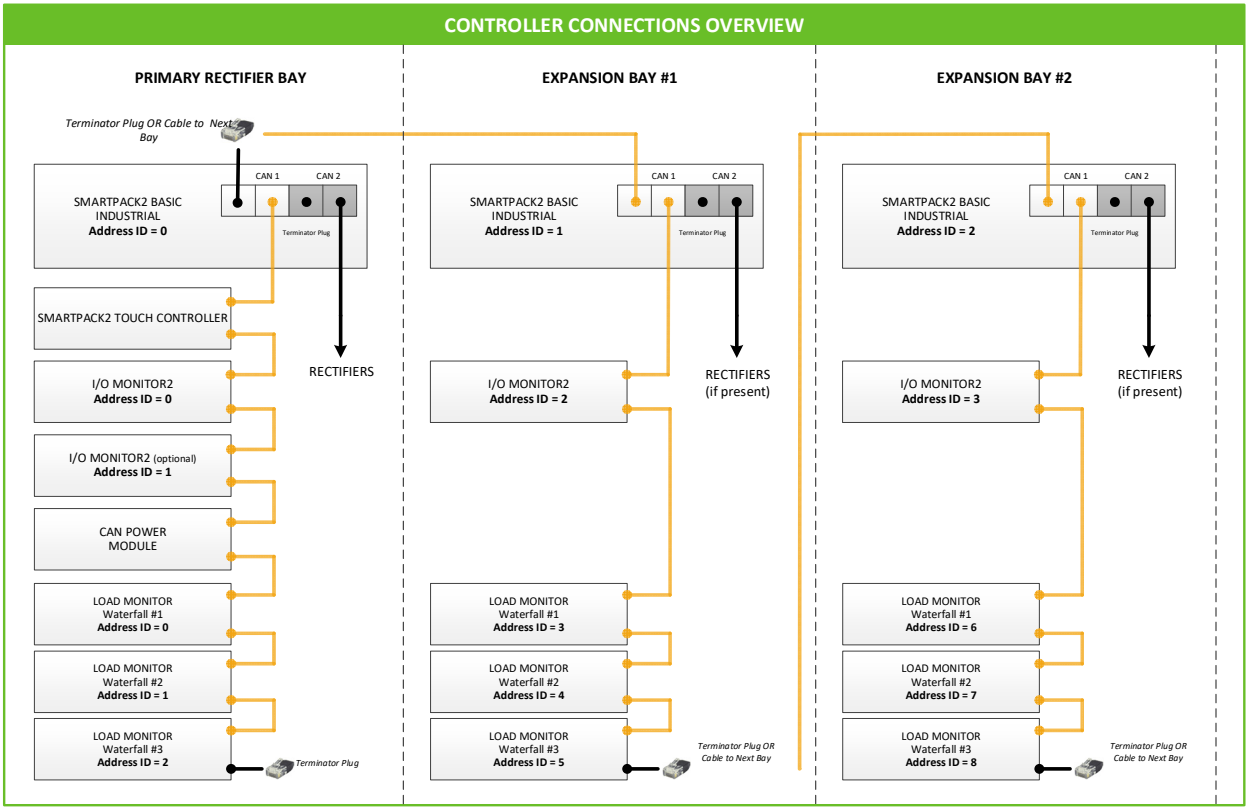

Figure 1 – Power System Control

Important Notes:

- The files for the upgrade can be downloaded at https://eltek.sharefile.com. A guest user name and password are provided on the login page.
- If using Eltek Network Utility (ENU) for a remote update, download the current version from https://eltek.sharefile.com. ENU is a Windows-based utility.
- The procedures in this document should not be used to downgrade the software in the controller. A software downgrade may cause incompatibility issues and or system damages; hence, Eltek does not recommend this practice, and shall not be held responsible for the loss of any data or system malfunction if the user chooses to do so.

Warnings

- The procedures described in this document are intended to upgrade an energized, live power system. Both AC and DC voltages as well as high currents are present.

- Eltek recommends upgrading the power system during programmed maintenance hours.
- Ensure that the power system is operating in normal conditions without active alarms.
- Observe all precautions and site rules to avoid contact with any voltage and current carrying conductor to prevent electrical shock.
- In the event unforeseen circumstances occur during the upgrade, Eltek is not responsible for the loss of any data.

Additional resources

In addition to this document, the following documentation may be needed. Be sure to obtain copies of these documents, before beginning upgrade procedures. Copies of the documents can be downloaded from https://eltek.sharefile.com, as described in the preceding section.

- *Smartpack2 Touch Controller Ports and Navigation*, Doc. No. 370135.033
- *Configuration Guide: Eltek Controllers* (Document number 370013.063).

2. Backing Up Your System Configuration

System configuration is preserved through the software update, and controllers do not need to be reconfigured unless otherwise noted. Nevertheless, should a controller fail, a backup can be used to restore the previous state of the controller. Therefore, before you start the upgrade process, create a backup of your system configuration.

To make a backup of your system, see the procedure given in the chapter on "Configuration Backup," in the *Configuration Guide: Eltek Controllers*, Doc. No. 370013.063.

IMPORTANT NOTE: The backup files are valid ONLY for the system and software version USED TO create THE BACKUP. Never use the backup on another system OR different software version.

NOTE: Settings and calibration values for Load and Battery Breakers are not part of the Change Log XML file. Be sure to make a separate record of these settings if you wish to maintain them as part of your backup data.

3. Upgrade Procedure Using a USB Memory Stick

The Smartpack2 Touch Controller features a touch screen that facilitates local navigation through the menus to upgrade the following control units:

- Smartpack2 Touch Controller
- Smartpack2 Basic Controller
- Smartpack2 Basic Industrial Controller
- Fleximonitor Battery Monitor
- IO Monitor Type 1
- IO Monitor Type 2
- IO Monitor Type 3
- Load Monitor
- Mains Monitor
- Smart Node RS232_RS485

Before You Begin

The following table shows the list of files needed for the update. Before you begin the update, use a computer to retrieve these files, and copy them to a USB memory stick. The current version of the files can be downloaded at https://eltek.sharefile.com.

Table 1 – List of SP2 Controllers and CAN nodes with corresponding SW.

Controller- Node part number	Device name	SW part number	File name
242100.510	Smartpack2 Touch	405036.009	405036.009_UPDATE-FULL_2.XX_YYYYMMDD.CRY
242100.501	Smartpack2 Basic	405007.009	SP2BAS.MHX
242100.601.VC	Smartpack2 Basic Industrial	405019.009	SP2BASIN.s19
242100.603.VC 242100.607 242100.608	Fleximonitor	405028.009	FLEXIMON.s19
242100.300.VC (Hardware, v. 1 – 3)	Battery Monitor Type 1	402086.009	BATTMON.HEX
242100.300.VC (Hardware, v. 4+)	Battery Monitor Type 2	405033.009	BATTMON.s19

Controller- Node part number	Device name	SW part number	File name
242100.304.VC	IO Monitor Type 1	402088.009	IO_UNIT.HEX
242100.502.VC	IO Monitor Type 2	402088.009	IO_UNIT.HEX
242100.306.VC	IO Monitor Type 3	402088.009	IO_UNIT.HEX
242100.301.VC	Load Monitor	402087.009	LOADMON.HEX
242100.305.VC	Mains Monitor	402093.009	MAINSMON.HEX
242100.200.VC	Smart Node RS232_RS485	402077.009	SMARTNOD.MHX

For additional documentation about the controller, refer to the "Additional resources," listed on page 6. Reference is made to these other documents within this procedure. If you do not have a copy of these documents handy, download them from https://eltek.sharefile.com.

Please be aware of the following recommendations:

- Be prepared to allow the necessary time to the upgrade process to be completed. Some units will require longer time to upgrade (for example, each Smartpack2 Basic Industrial Controller may take up to 5 minutes). During this time, a progress bar will be displayed.
- Do not interrupt the upgrade process once it is initiated. Interrupting the process may cause adverse consequences to the system.
- Each controller or node must be programmed individually.

  Note: When upgrading Basic Industrial Controllers in large systems with multiple rectifier groups the Touch display (or web page, if using the browser interface) may restart during the update of each Basic Industrial in the system. In the meantime, prior to the interface restart, the Touch Controller may become slow or unresponsive until after the restart. Allow the system to complete the upgrade to the Basic Industrial Controller before taking any other action.

Upgrading Controller Modules

To upgrade the controller modules in your system:

1. Verify that you have copied the files that you need onto a USB memory stick (refer to Table 1 on page 8). As previously noted, the files can be downloaded at https://eltek.sharefile.com.

2. Insert the USB memory stick into the USB port on the front of the controller.

Figure 2 – Front USB Port on the Controller

3. If you have not yet logged into the controller, use the touch screen menu, to log in as Administrator (**Menu › Logout/Login**.)

4. Go to **System › Commands › Software Upgrade**.

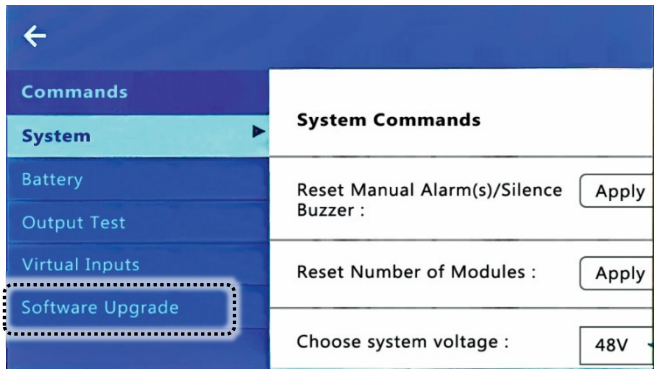

Figure 3 – Software Upgrade Menu

5. Scroll through the list of controllers on the screen and compare the existing software versions in for each controller listed, with the versions on the README file associated with the files being used for the upgrade (see Table 1, page 8).

   Note: If you have a version of the Touch controller prior to 2.8.1, the upgrade procedure requires a specific sequence and additional files. Contact Tech Support for additional instructions.

   Note: The Touch controller performs a reboot after the programming has concluded and sets the screen back to home. If you prefer to delay the reboot, perform the updates to other elements first, and update the Touch controller last.

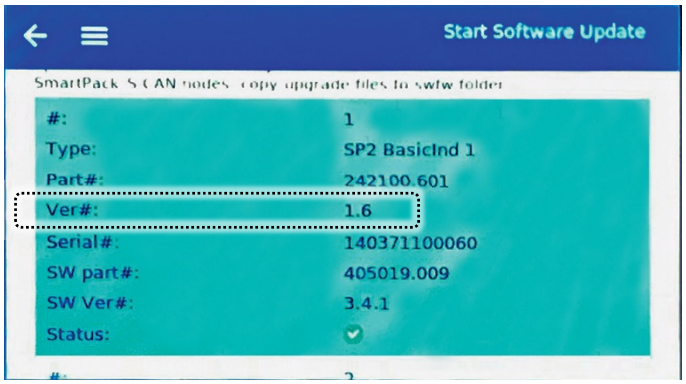

Figure 4 –Controller List (Basic Industrial Controller shown)

6. Choose the unit to upgrade (in this example, **SP2 BasicInd 1**); the text turns blue to indicate that the controller is selected.

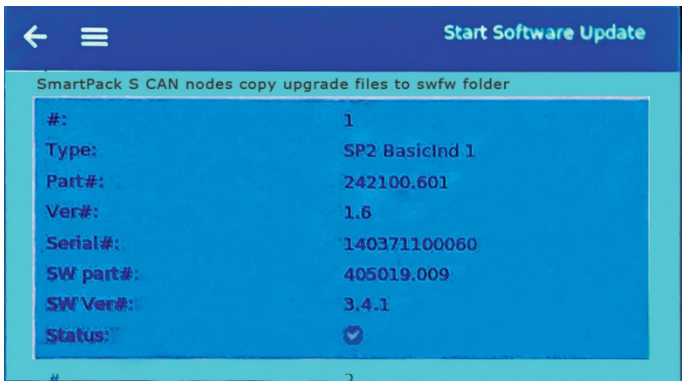

Figure 5 – Unit Selected

Note: When upgrading Basic Industrial Controllers in large systems with multiple rectifier groups the Touch display (or web page, if using the browser interface) may restart during the update of each Basic Industrial in the system. In the meantime, prior to the interface restart, the Touch Controller may become slow or unresponsive until after the restart. Allow the system to complete the upgrade to the Basic Industrial Controller before taking any other action. (It may take 5 minutes per Basic Industrial.)

7. Touch the **Start Software Update** (Figure 9) in the upper right corner to begin the process. A message appears: The selected unit will be programmed!

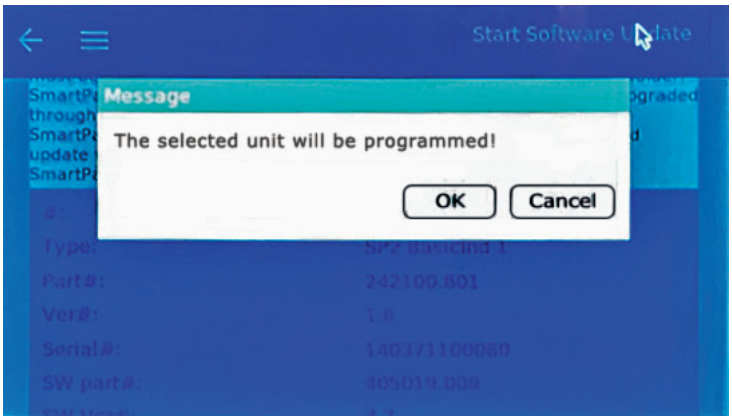

Figure 6 – Programming Message Dialog

8. Choose **OK** on the **Message** dialog to continue the update for the selected unit. Allow two to three minutes for data transfer. The screen may remain static; if the screen turns black, you may tap it to turn it back on, but no progress bar appears until after the data transfer is complete. Once the data is transferred from the memory stick to the controller, a progress bar appears to indicate the update is in process.

   After a controller module (apart from the Touch) is updated, a message appears saying **Software Upload Finished**.

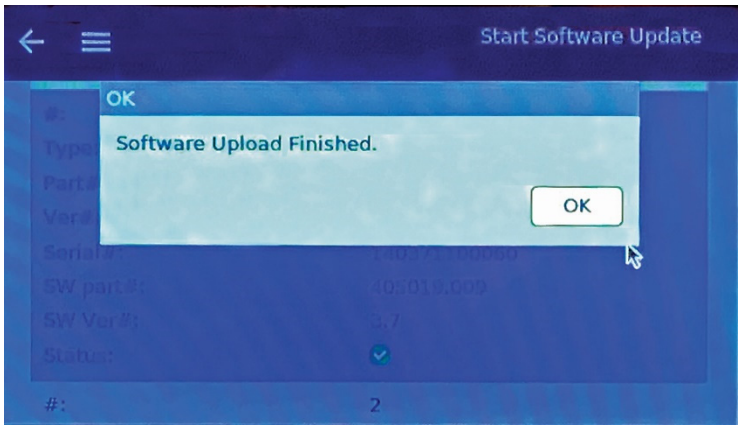

Figure 7 – Programming Message Dialog

   After a Touch Controller is updated, a message appears saying **SP2 Touch installation complete**, and the controller then reboots.

Figure 8 – Touch Installation Completed Message

Note: Because the Touch controller performs a reboot after the programming has concluded, if you update the Touch controller first, you will need to log back into the controller and return to **Commands › Software Upgrade**, in order to select the next unit for upgrade (Steps 3 and 4). After that, follow the remaining steps for each element being updated.

9. Repeat steps 5 to 8 to upgrade additional units in the system.

10. The upgrade of the system is complete when the last unit has been programmed. The new software information will be displayed on the controller screen after it automatically times out, or if it is manually set back to the home screen. Go back to **Commands › Software Upgrade** to refresh the controller list (see Figure 4). Confirm that the software versions on the controller list reflect the updated versions listed on the README file associated with update files (see Step 1, page 9).

This concludes the software upgrade procedure using a USB memory stick. The process is complete. (The additional chapters in this document only apply to upgrades made using a different method.)

4. Upgrade Procedure Using Eltek Network Utility (ENU)

The Eltek Network Utility (ENU) program allows remote upgrade of the Smartpack2 Touch controller only.

The free version of the ENU allows you to upgrade Smartpack2 Touch controllers one at a time. The licensed version of the ENU allows the upgrade of multiple controllers simultaneously.

This chapter explains how to upgrade the Smartpack2 Touch controller ONLY, and requires the latest version of the ENU installed on your computer. The correct version of the upgrade software file, "**405036.009_UPDATE-FULL_2.XX_YYYYMMDD.CRY**", must be available on the local hard drive.

Note: These instructions assume that your controller is already on a network.

Note: This procedure requires SFTP (Secure File Transfer Protocol). Use the web browser interface to verify your SFTP settings. Go to **System Conf. › Device Settings › Network Settings › TCP/IP [Security]**. Confirm that **Secure FTP Server** is enabled (checked).

1. Open **Eltek Network Utility** (ENU).
2. Choose the magnifying glass icon on the upper left corner of the window. The program will query for any Eltek controllers that are connected to the Local Area Network (LAN). The main window of the ENU will populate and list any controllers connected to the same network.

Figure 9 – ENU Main Window

3. From the list of controllers on the window, highlight the Smartpack2 Touch Controller to upgrade.

   Note: verify the existing software version (**SW** column) installed on the controller. If you already have the latest version, a software upgrade is not necessary.

4. From the buttons along the bottom border, choose **SW upgrade**.

5. On the next window choose **Open file**. You will be prompted to locate the **.CRY** file.

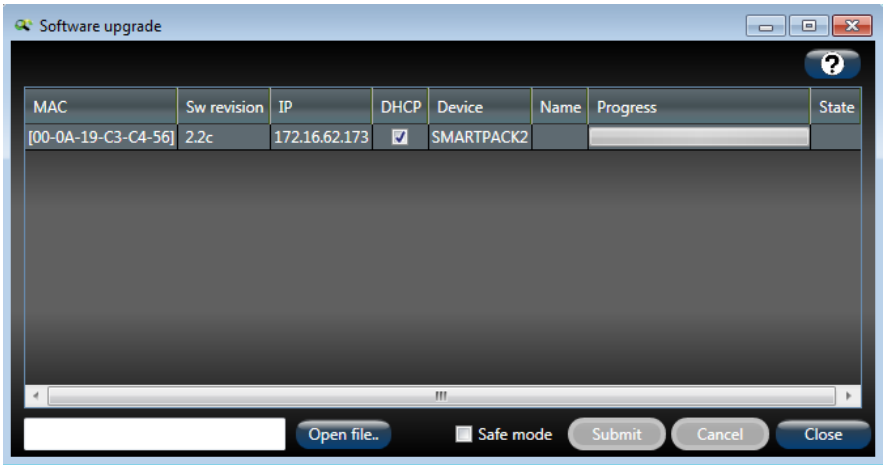

Figure 10 – ENU Open File

6. On the file browser window, highlight the correct file with the correct extension, for example **405036.009_UPDATE-FULL_2.XX_YYYYMMDD.CRY**, and choose **Open**. The window will close.

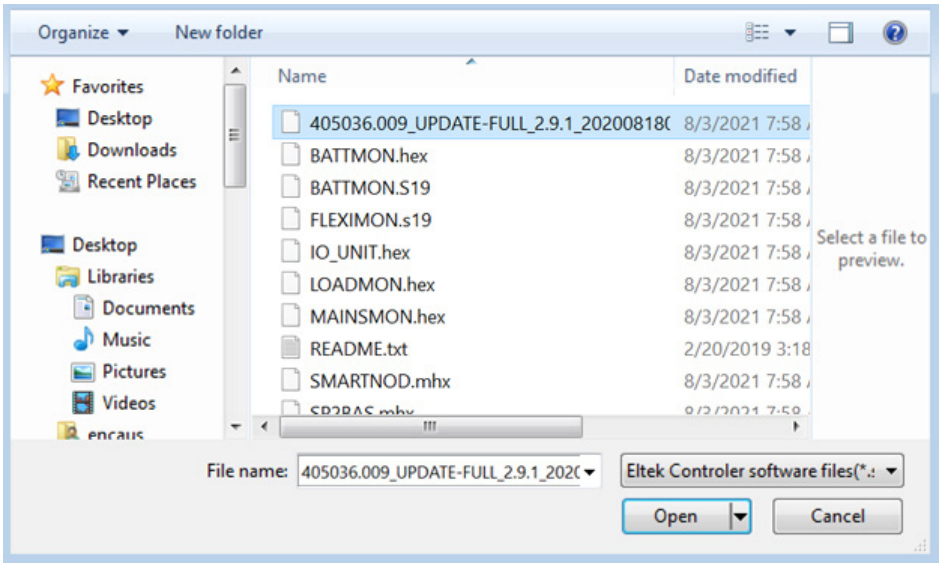

Figure 11 – Selecting the Update File

7. Returning to the **Software upgrade** window**,** click the **Submit** button.

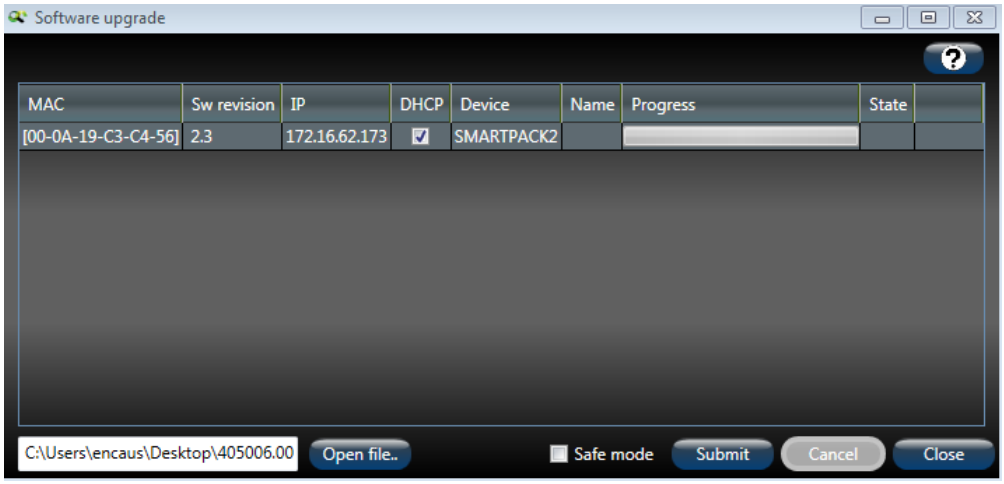

Figure 12 – ENU File Dialog Window

8. On the **Are you sure?** dialog box, click **Yes** to proceed with the upgrade.

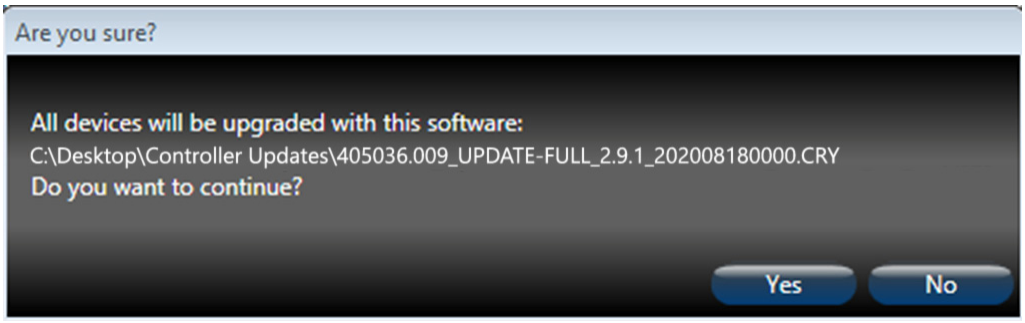

Figure 13 – ENU Confirmation Message

After you choose **Yes**,

9. After you choose **Yes** on the Are you sure dialog, you must enter administrative credentials in order to continue the process. Enter your user name and password.

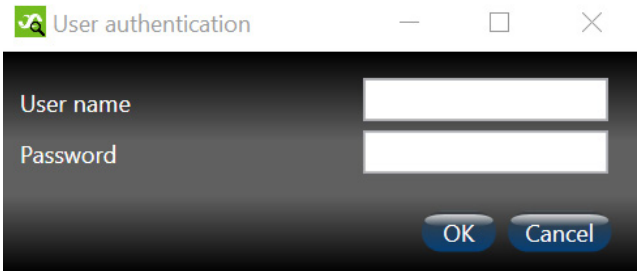

Figure 14 – Administrative Login

Default administrative credentials are:

User name: **admin**
Password: **admin**

After you enter admin credentials, the ENU Software Upgrade window displays an initial progress bar **(Uploading data** appears in the **State** column), indicating that the files are being uploaded to the controller. This is merely the beginning of the process. After the message **File transfer completed** appears in the **State** column, the transferred files still need to be installed within the controller, and during this installation process, the controller will reboot twice. The installation process begins automatically, so you must wait for the process to finish.

Note: The controller is still accessible at this time. Nevertheless, at this point, avoid attempting parameter changes.

10. Allow time (approximately 17 minutes) for the process to be completed. If you are local to the controller, you can monitor the progress of the installation on the controller display.
    - The Touch Controller display provides a series of progress bars indicating that the software is being installed. Wait until all components are installed, followed by the message: **SP2 Touch Installation completed!** on the Touch display.
    - After the upload is complete, the controller performs an automatic reboot twice. (As noted, the entire process takes approximately 17 minutes.)

    If you are making the installation remotely, just wait for the approximate installation time, before attempting to log back in to the controller.

11. After allowing time for all components to be installed: log back in to the Eltek Network Utility, to confirm the new version of the software has been successfully installed. A new log in is required, because of the automatic controller reboots that occur during the installation process.

If you are updating additional control units (Smartpack2 Basic Industrial Controller, I/O monitor, Fleximonitor), follow the procedure given in Chapter 5, “Upgrade Procedure Using FTP,” page 19.

5. Upgrade Procedure Using FTP

For FTP upgrades:

- Use FTP if you are remote (via network), and cannot use ENU to update the Touch Controller; or if you are updating a Basic Controller, an Industrial Basic Controller, and/or CAN nodes.
- A secure encrypted update is necessary, see the discussion regarding SFTP, port 22, and .CRY files, on page 14.

The update procedure includes the following tasks:

- Verify Current Software Version(s) (next section, below)
- Transfer Files to Controller Using FTP (on page 20)
- Run Software Update (on page 22)

Verify Current Software Version(s)

Before performing any software upgrades, verify the current software version installed on each controller element in your system.

To verify existing controller software version(s):

1. Using the web browser interface, go to **Commands › Software Upgrade**.

   Note: If you are unfamiliar with the web browser interface, see the *Configuration Guide: Eltek Controllers*, Doc. No. 370013.063.

2. On the **Software/Firmware...** page, refer to the **SW Ver #** column.

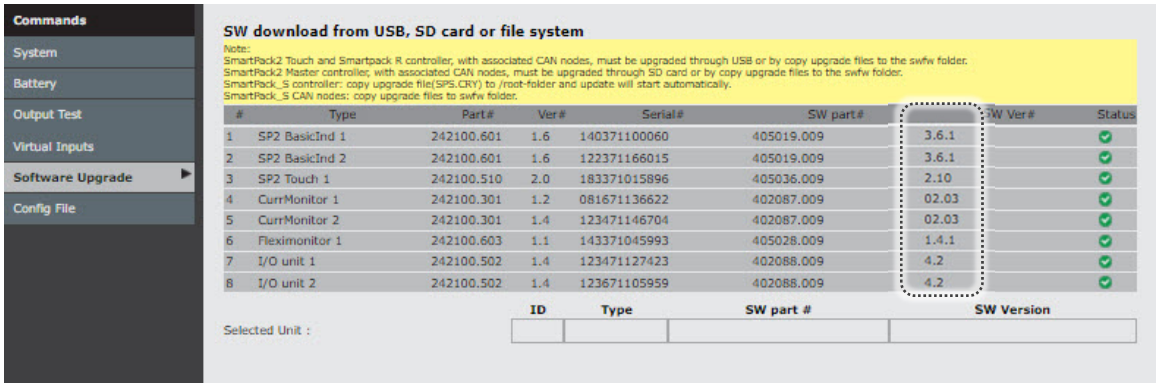

Figure 15 – Verifying Current Software Versions

3. Compare the software versions for your controllers with the current versions listed in the **README.txt** file included with the latest software update files.

   Note: The **README.txt** file, as well as the software update files, can be downloaded from the Controller section of the documents at **eltek.sharefile.com**.

4. Copy any necessary software update files on your computer, so that you can transfer them remotely to the controller using FTP. For the correlation between the various controllers and the filenames of the updates, see Table 1 on page 8.

Transfer Files to Controller Using FTP

In order to upgrade using FTP, you must have an FTP client application installed on your computer. The following examples use **Filezilla**, but other applications can be used to transfer FTP files.

To transfer the upgrade files using FTP:

1. Launch **Filezilla**, or other FTP application.
2. Locate the directory on your computer where the upgrade files reside. (These are the files that you identified in the previous task (Step 4, above).

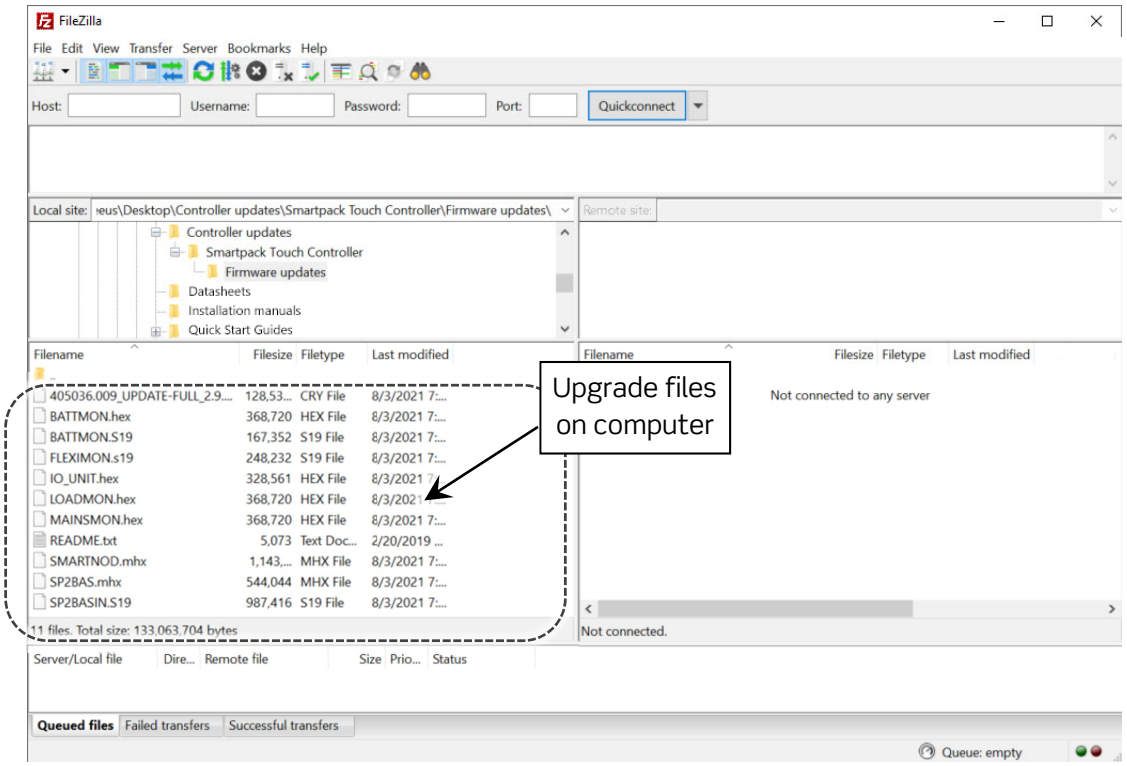

Figure 16 – Filezilla Application Window

3. Enter the **Host** address, **Username**, and **Password** for the **Touch Controller** (**Host**) for your system, **Port: 22** and log in using FTP. The destination directory on the Touch Controller is **swfw**.

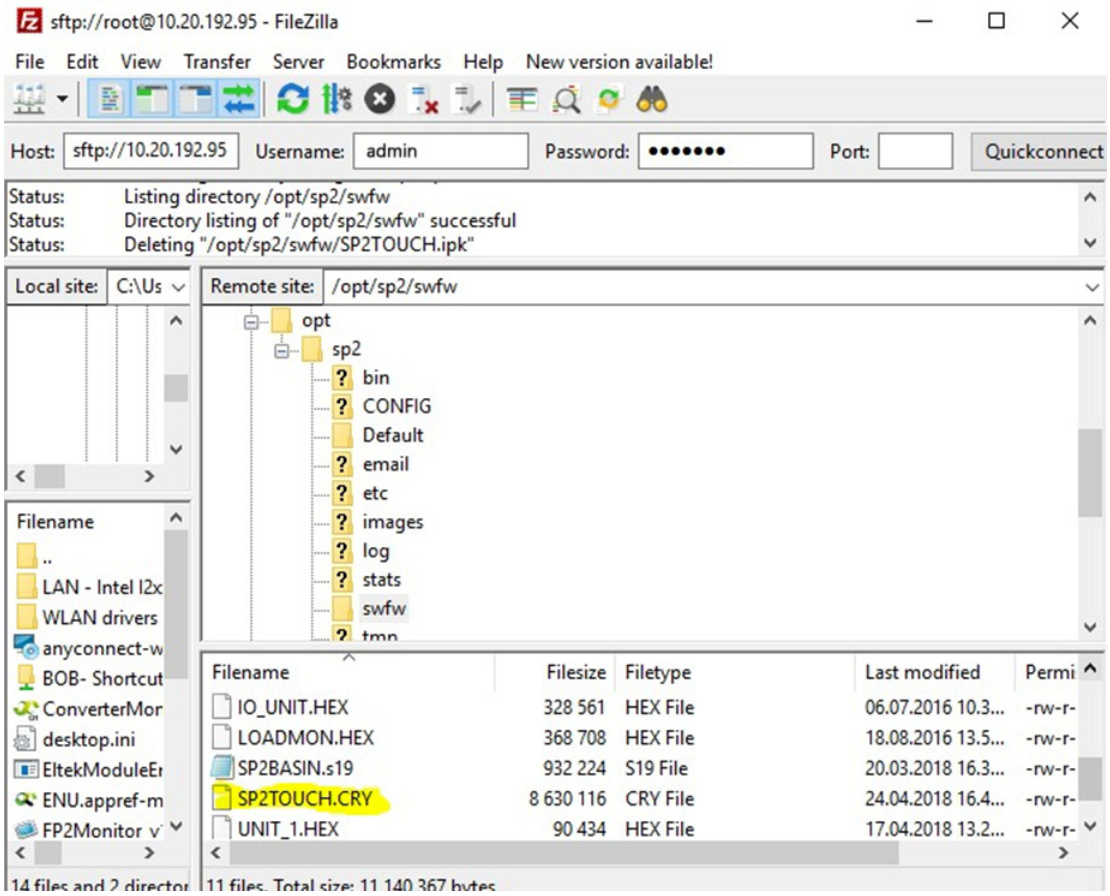

Figure 17 – Destination Directory

4. Choose the file(s) on your computer to be transferred to the controller, then drag and drop them (or right-click and choose **Upload**), to copy them to the controller.

   Note: If your connection is slow or unstable, it may work best to transfer the files one at a time, and copy the master controller file (**405036.009_UPDATE-FULL_2.X.X_202008180000.CRY**) last.

   Verify that all necessary files have been copied successfully, before moving to the next task.

Run Software Update

After all software files have been transferred via FTP to the controller, as described in the previous section, return to the web browser interface, in order to run software updates.

To run software updates:

1. Using the web browser interface, go to **Commands › Software Upgrade**.

2. On the **SW download...** page, click the controller you want to upgrade. This selection will reveal additional details about the unit.

   Note: You can upgrade the controllers in any sequence you prefer. Nevertheless, when the Smartpack2 Touch controller is upgraded, it will reboot the system. For that reason, you may prefer to upgrade all the other controllers first, and upgrade the Smartpack2 Touch controller last.

   Note: When upgrading Basic Industrial Controllers in large systems with multiple rectifier groups the Touch display (and web page, if using the browser interface) may restart during the update of each Basic Industrial in the system. In the meantime, prior to the interface restart, the Touch Controller may become slow or unresponsive until after the restart. Allow the system to complete the upgrade to the Basic Industrial Controller before taking any other action.

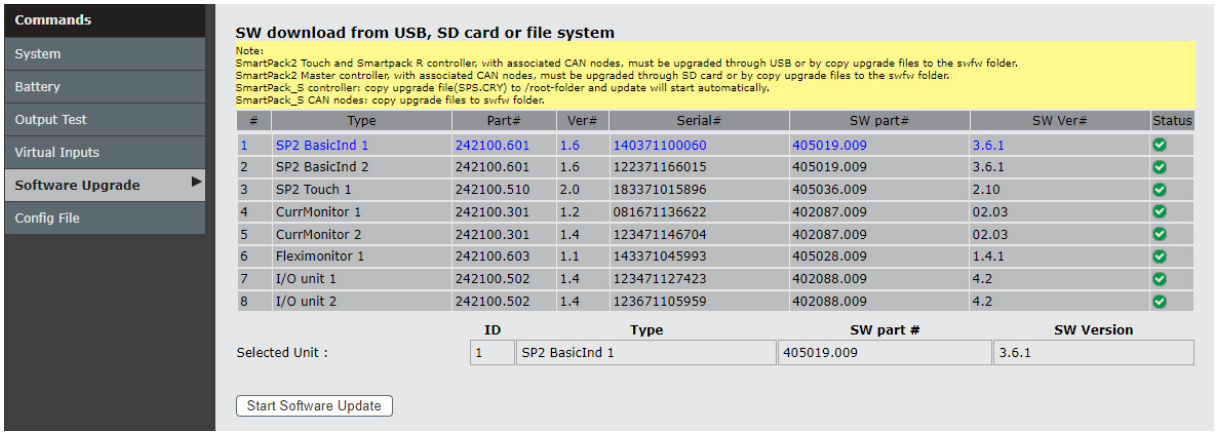

Figure 18 – Software Update Selection

3. Click the **Start Software Update** button, to begin the upgrade of that controller unit. You will see an alert saying **The selected unit will be programmed!**

4. On the **Message!** alert, click **OK** to continue the update.

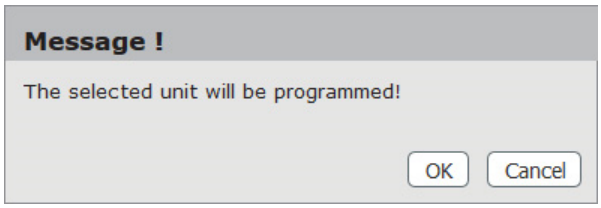

Figure 19 – Software Update Message

A progress bar appears, allowing you to monitor the progress of the update; it will be followed by an alert, notifying you when the upgrade for the controller is complete.

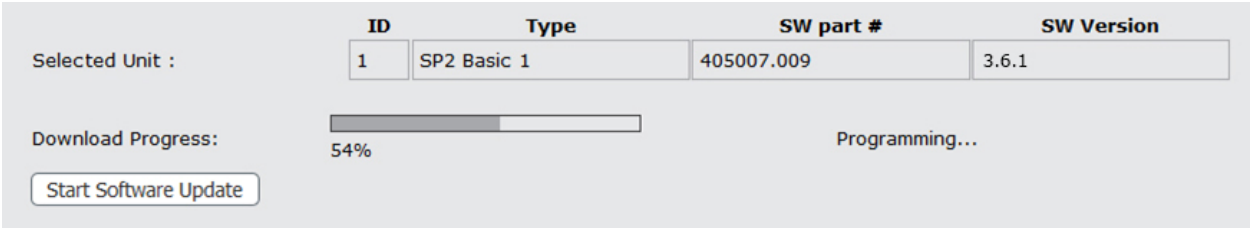

Figure 20 – Upgrade Progress Bar

5. After the upgrade is complete, click **OK** to return to the **SW download...** page.

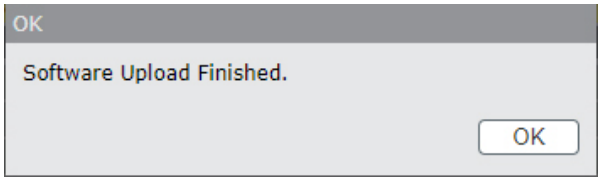

Figure 21 – Software Update Message

6. If you are upgrading additional units, proceed to the next controller on the **SW download...** page (Figure 18), and repeat steps 2 – 5.

   Note: The revision numbers in the controller list (Figure 18) do not update until you refresh the screen.

Once all modules have been upgraded, the process is complete.

Appendix: Restoring a Configuration File

If a controller or CAN node fails during an upgrade, you can import to a replacement controller, the configuration file that you created in “Backing Up Your System Configuration,” on page 7.

IMPORTANT NOTE: The backup files are valid ONLY for the system and software version USED TO create THE BACKUP. If the replacement controller is a different version from the failed controller, contact Technical Support for assistance, before proceeding with the restoration procedure.

To import the configuration file using the web interface:

1. Launch **your** browser, and **Login** to the web interface.
2. From the home page, choose **Commands › Config File › Load/Save Config**.

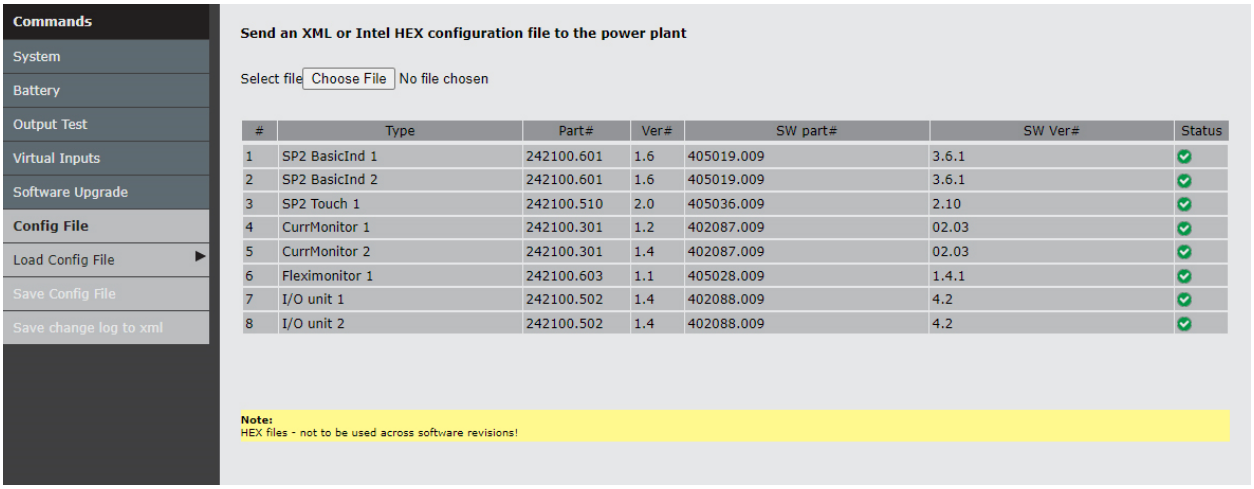

Figure 22 – Load Config Page

3. Click the **Choose File** button, and follow the prompts to select your configuration file.
4. After choosing the file, click **Upload Config file** to begin uploading the configuration. A progress bar indicates the status of the process.

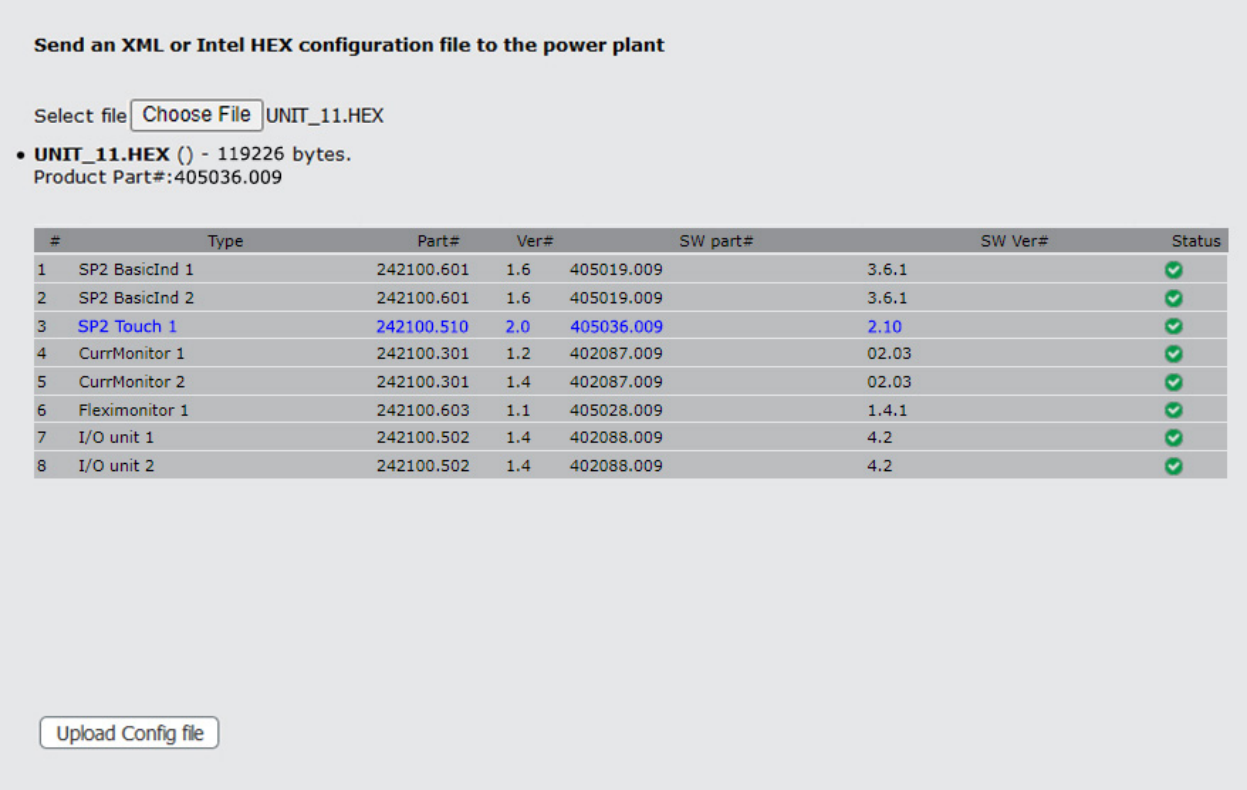

Figure 23 – Load Config Page

5. Return to applicable upgrade procedure.

This concludes the procedure to import a configuration file.

Revision Table

Revision	Published	Description	CO
1	3/29/2022	Initial release	NA

For assistance with technical questions and solutions, please contact Technical Support by email at techsupport.us@deltaww.com or by phone at 1-800-435-4872.

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