ELTEK

Configuration Guide

Eltek Controllers

Smartpack Touch Controller

Smartpack S Controller

Smartpack2 Master Controller

Compack Controller

Smartpack R Controller

Smartpack2, Smartpack S, Smartpack R, and Compack

Doc. No. 370013.063, Issue 1.4
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Contents

1. Overview

This configuration guide provides instructions for the following Eltek controllers:

- Smartpack2 Touch
- Smartpack2 Master
- Smartpack S
- Smartpack R
- Compack

The procedures in this guide describe how to establish controller communication using a computer and how to apply parameter settings through various methods: the web browser interface, the touch screen, and the display panel.

Unless otherwise noted, screenshots for the browser interface and the display panel are taken from the Smartpack2 Master controller.

Additional details regarding particular controllers are given in the following sections.

Smartpack2 Touch

The Touch Controller provides maximum flexibility. The Touch screen can be used for direct monitoring, and to configure the controller. For ease of use, a mouse and/or keyboard can be plugged into the USB ports on the controller, in order to navigate and enter parameters on the screen. If you prefer a larger screen, connect a computer to the controller, using the Ethernet port on the face of the controller, and utilize the same web browser interface employed by other Eltek controllers. (See page 8 for instruction about connecting a computer to the controller.)

Note: The Smartpack2 Touch screen uses the same basic interface as the browser version, except that the Touch controller displays the information in an adaptive format fitted to the smaller screen of the controller. The main navigational difference is that the left menu bar in the browser interface becomes a sub-menu in the Touch interface; the submenu must be accessed first on the Touch display, in order to select the associated configuration options. The configuration options are the same as the browser interface, although you may have to scroll further down a page to see all the options.

In order to see the differences between the Smartpack Touch screen interface and the browser interface, study the instructions in "Setting Float Voltage" on page 16. Subsequent chapters assume that you understand the adaptive differences in appearance between the browser and the screen.

Smartpack2 Master

For the Smartpack2 Master controller, setup can be performed through either the browser interface or display panel.

NOTE: The **Smartpack2** Master controller display must be unlocked in order to enter the Main Menu. At the default status screen, press the UP arrow key, DOWN arrow key, and then the ENTER key to unlock the screen and enter the Main Menu.

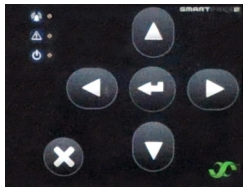


Figure 1 – Smartpack 2 Master Navigation Buttons

Smartpack S

For the Smartpack S controller, setup can be performed through either the browser interface or display panel.

NOTE: The **Smartpack S** controller's navigation keys are slightly different from the Smartpack2 controller's keys in that the ENTER and CANCEL (X) keys also function as the LEFT and RIGHT keys, respectively, as follows:

ENTER: A short press of this key navigates to the LEFT. A long press (or, "press-and-hold") performs an ENTER or confirm action.

CANCEL (X): A short press of this key navigates to the RIGHT. A long press performs a CANCEL or abort action.

Figure 2 – Smartpack S Controller Navigation Buttons

Smartpack R

The Smartpack R controller has a unique display panel; it also employs the browser interface to adjust parameters. Use the instructions for the browser interface when performing the tasks described in this guide. For additional information about the Smartpack R display, and other features, see the *User's Guide: Smartpack R Controller* (Doc. No. 350166.013).

Figure 3 – Smartpack R Controller

Compack

The Compack controller does not have a display panel and therefore *requires* the use of a computer and an Ethernet connection for the browser interface in order to adjust parameters.

Passwords

Passwords are required to edit fields and apply changes. The following are the default passwords for each interface:

- **Browser or Touch interface**: The administrative password required to make changes is entered when logging in to the interface. By default, the credentials are:

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

- **Display**: The administrative password (PIN, in this case) is entered when selecting a field to edit. By default, the PIN is **0003**.

2. Direct Network Connection to the Controller

The following procedure describes the most reliable method for establishing a direct connection between a computer and an Eltek controller, which facilitates access through the web browser interface.

Requirements

Before connecting to and accessing an Eltek controller by computer, the following items and information must be collected:

- Make sure the User Guides for the controller and system are on hand. If not, please visit the Eltek ShareFile site (**https://eltek.sharefile.com**) and download the appropriate documents.
- Install the Eltek Network Utility (ENU) on the computer to be used. This utility can be downloaded from the Internet (**http://msm.eltek.com/enu**).
- The web browser interface is tested using Microsoft® Internet Explorer®, Mozilla® Firefox®, and Google Chrome® for Windows.
- **IMPORTANT**: The following Eltek interfaces require the computer ports specified to be available (i.e., not blocked by the local network administration or IT group):
  - Eltek Network Utility:
    UPD port 20034
    TCP port 80
  - Web Browser Interface:
    TCP port 80
    TCP port 443

Procedure

1. Use an Ethernet cable (either cross-over or straight-through) to connect a computer to the controller.

Figure 4 – Controller Ethernet Ports

2. Launch the Eltek Network Utility (ENU) on the computer.

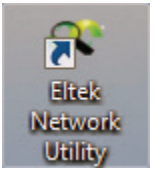


Figure 5 – Eltek Network Utility Icon

Note: If using a Smartpack2 Touch controller, and ENU is not installed, you can plug directly into the Ethernet port on the face of the controller. This port is a "craft port" for direct computer-to-controller access. After plugging into this port on a Touch controller, open a browser, enter the address 10.10.0.1, and move to step 6.

3. After the ENU program opens, click on the search button (magnifying glass button) in the upper left corner to find the controller. Wait for the window to populate.

Figure 6 – Eltek Network Utility Window

4. Click on the controller line to select it.

   NOTE: By default, Eltek controllers are shipped with a static IP address of **192.168.10.20**. (For the Touch controller, this address only applies to the rear port, not the port on the face.)

5. Click on the **Web Interface** button.

6. Does the Login page appear in the web browser? (See the following figure.)

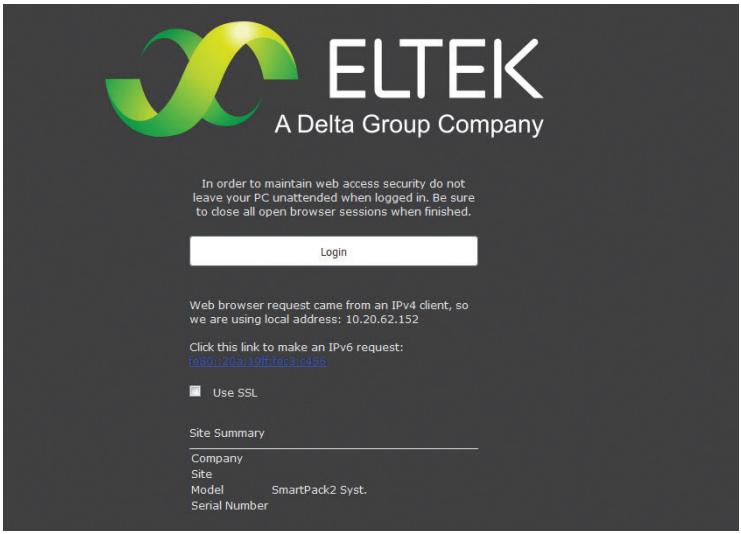


Figure 7 – Web Browser Interface Login Page

- If YES, then skip to step 20 (on page 13).
- If NO, then the controller's IP address must be changed to be closer to the IP address of the computer. Continue to the next step.

7. On the computer, launch a **Command Prompt** window. This can be done in one of two ways:
   - Click the **Start** button, choose **Run**, type **cmd** in the text field, and click the **OK** button.
   - Click the **Start** button, choose **All Programs**, select **Accessories**, and then select **Command Prompt**.

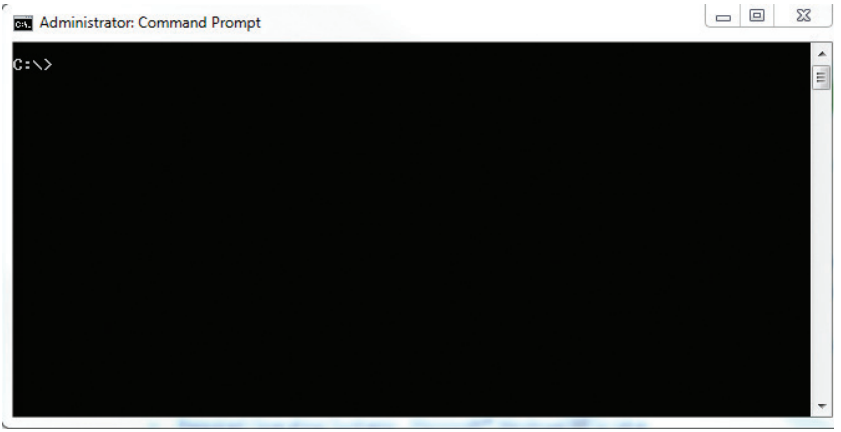


Figure 8 – Command Prompt Window

8. At the command prompt, type **ipconfig** and press **[ENTER]**. A series of lines appears listing all of the TCP/IP identities of the computer.

9. Find the heading **Ethernet adapter Local Area Connection** (or similar text); it may be necessary to scroll upwards in the command prompt window. Locate the **IPv4 address** line and write down or copy the address. It consists of four sets of numbers separated by three periods (in the form **xxx.xxx.xxx.xxx**). This address is needed in step 15 (on page 12).

10. Type **exit** at the prompt to close the Command Prompt window.

11. In the ENU program, select the controller and click on the **IP Config...** button. The **Ip configuration** window appears.

12. Click on the **Clear IP** button.

13. Make sure the check box under **DHCP** is **NOT** checked (empty).

Figure 9 – Ip Configuration Window

14. Click in the field under **IP Address** until the box is highlighted and a cursor appears.

15. Type an address that is close to the IP address of the computer. The first three numbers (or octets) should be exactly the same to ensure that both the computer and controller are on the same network; the last number (octet) should be different by a few digits.

    For example, if the computer's IPv4 address is **192.168.1.30**, then use the first three numbers (**192.168.1**) exactly as they appear for the controller. For the last number, pick something close to the computer's last number, like **35**. The resulting IP address for the controller in this example will be **192.168.1.35**.

    NOTE: If an invalid address is entered, the box shows a red outline. Leading zeros should be omitted.

16. Click the **Submit** button. There may be a "click" from the controller as it reboots to apply the new IP address. Allow 30 seconds for the controller to finish the reboot cycle.

17. Click the **Close** button of the **Ip configuration** window.

18. After the controller reboots, return to the main window of the ENU program and click the search button again. The controller appears in the list with the new IP address.

19. Select the controller and click the **Web Interface** button. The login page appears (as shown in step 6, on page 10).

20. Click the **LOGIN** link.

21. At the prompt, type in the username and password. The defaults are:

    Username: **admin**

    Password: **admin**

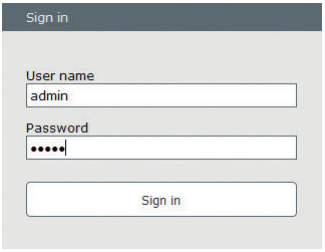


Figure 10 – Sign In Prompt

NOTE: The username and password are case-sensitive. If these credentials do not work, then they have been changed on site. Consult site personnel and/or site documentation for the current credentials.

Controller connection is now established. Make sure to logout from the controller when you are finished.

NOTE: If the controller is to be connected to a local area network (LAN), contact the local network administrator to determine if a static IP address is to be assigned or if the IP address will be assigned dynamically (DHCP). Use the "Ip configuration" window to set the controller IP configuration according to the instructions from the network administrator. Refer to steps 11 – 17 again, if necessary.

RECOMMENDATION: If connecting the controller to a LAN after setup, make sure to check connectivity through the network!

For controllers with a display (Smartpack2, Smartpack S), the controller's IP address can be found at the following location:

Main Menu › Sys.Config. › PowerSystem › General System Config. › Agent IP Address

3. Setting Password Recovery

This Password Recovery feature applies to the Smartpack Touch and Smartpack R controllers, using the web browser interface.

Setting a Password Recovery Email Address

When configuring a controller with this feature, be sure to enter a password recover email address. Failure to provide a recovery address makes the recovery process unavailable, in some cases requiring the return of the controller to Eltek for reprogramming.

To set a password recovery address:

1. Go to **System Conf. › Device Settings › Local Accounts**.

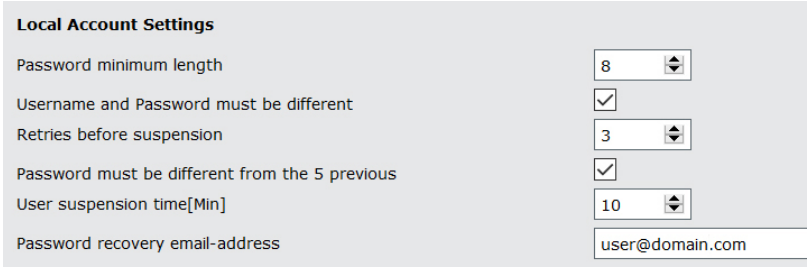


Figure 1 – Setting Password Recovery Email Address

2. In the text field, **Password recovery email address**, enter the email address to which you want a recovery link sent, in a case where the password must be recovered.

   Note: Check the spelling of the email address carefully. Also remember to keep this field current, if there are changes in your company email system or personnel. This address must be entered during configuration; it cannot be set after the password has already been lost.

For instructions on how to recover/reset the password, see the next section, “"Recovering/Resetting the Master Password".”

Recovering/Resetting the Master Password

To recover/reset your Master Password:

1. On the **Sign in** window, for the User name, enter **masterpw**, press the Tab key, and click **Forgot your password**. A new page will appear, with options for generating a reset link.

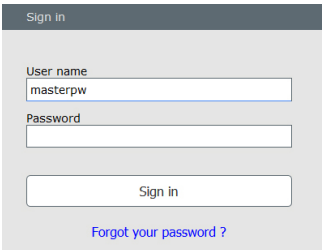


Figure 2 – Sign In for Password Recovery

2. On the link request page, do one of the following:
   - Click on the mail link. The link produces a special email message, using your default email application; send the message.
   - Use a cell phone with a QR-code reader, and scan the code. The QR code produces a special email message; send the message.

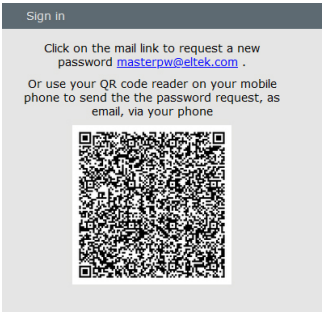


Figure 3 – Generating Email Recovery Message

3. Check the email for the address associated with password recovery. (This is the email address entered in **System Conf. › Device Settings › Local Accounts**, as covered in the previous section, ""Setting a Password Recovery Email Address"." Follow the instructions given in the email.

   For additional details, see the *User Guide: Eltek Controller Web Interface* (Doc. No. 370035.013).

4. Setting Float Voltage

CAUTION: Refer to the battery manufacturer's documented specifications for recommended float voltage per battery cell. It is the user's responsibility to enter proper battery parameters.

NOTE: Float voltage is calculated based on the voltage required per battery cell.

Setting Float Voltage through the Browser Interface

To set float voltage through the browser interface:

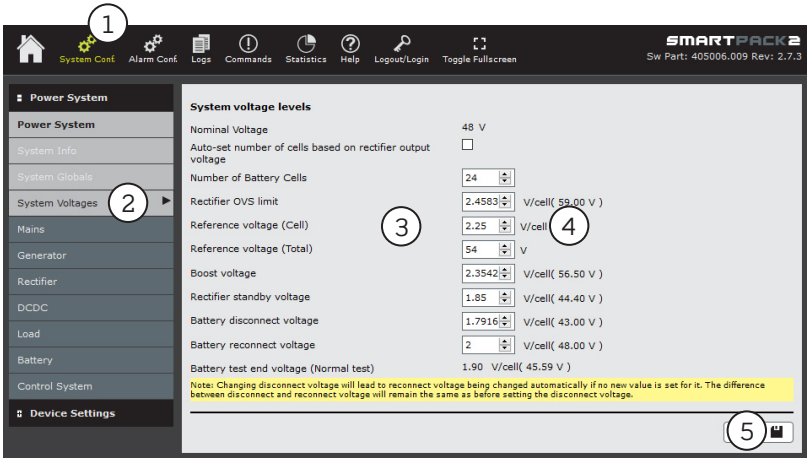


Figure 1 – Setting Float Voltage Using the Browser Interface

1. Click on the **System Conf.** button in the top menu bar.
2. In the left menu bar, click on the **System Voltages** button (below the **Power System** heading).
3. Locate the field called **Reference voltage (Cell)**.

4. Enter the voltage per cell required.

   Alternately, you can enter total reference voltage in the corresponding field, **Reference voltage (Total)**, and the per cell voltage adjusts automatically.

5. Click the diskette button (in the lower right-hand corner) to save the change. The voltage value in parentheses updates to reflect the new float voltage value.

Setting Float Voltage through the Touch Screen (Smartpack Touch only)

To set float voltage through the Touch screen:

1. On the home menu, choose **Menu** in the upper left corner.

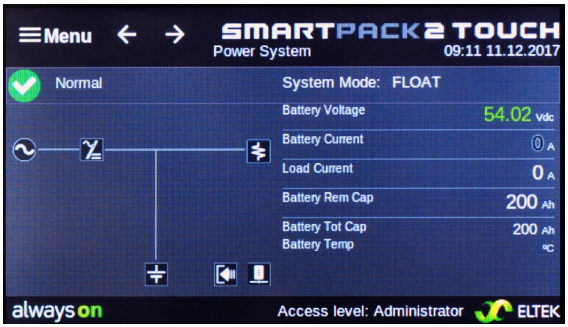


Figure 2 – Touch Controller Home Menu

2. If you have not yet logged in, choose **Logout/Login**. After you have logged in, choose **System Config.**

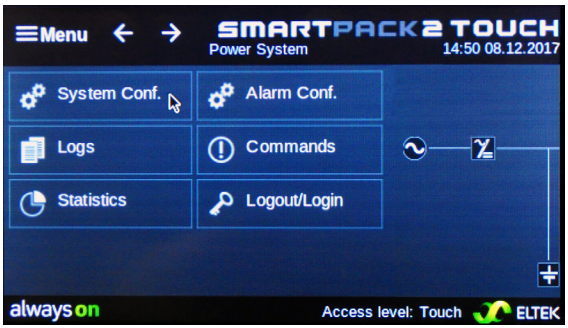


Figure 3 – Touch Controller Main Menu

Note: If you have not already logged in as administrator, you must do so before you can make changes to the controller configuration. To log in, choose the **Logout/Login** option from the icons screen. As with the browser interface, the log in defaults are:

Username: **admin**

Password: **admin**

After logging in, go back and choose **System Config.** This selection takes you to the top page in the **System Config. c**ategory (in this case the **Power System** page or **DC Plant Information**).

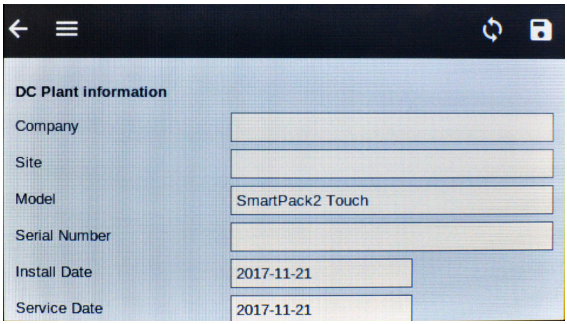


Figure 4 – DC Plant Information Page

3. From the **DC Plant Information** page (Figure 4), Choose the **Menu** button ( ) to move to the full list of **Power System** menu (Figure 5). This list corresponds to the left column of the browser interface.

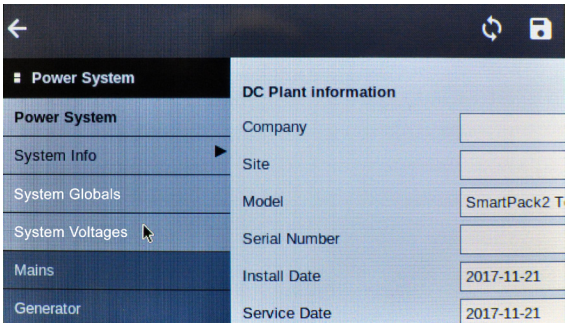


Figure 5 – Power System Menu

Note: Compare the Figure 5 with Figure 1 above, to see the parallels between this Touch submenu and the left navigation

column in the browser interface. From this point forward, the options and instructions for the Touch screen parallel the options on the browser interface, although you may have to scroll down the page further, in order to see all the parameters. When setting additional parameters using the Touch screen, follow a procedure corresponding to these first three steps in order to navigate to the submenus for specific parameters. The general instructions for the browser interface, in the successive chapters, can be used to configure the same parameters using the Touch screen.

4. Choose **System Voltages**, below the **Power System** heading (see Figure 5).

5. Locate the field called **Reference voltage (Cell)**.

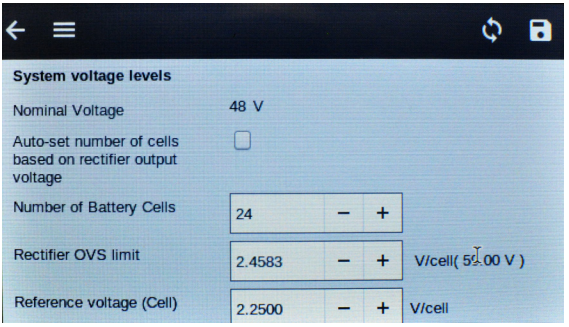


Figure 6 – System Voltage Levels Menu

6. Enter the voltage per cell required.

   Alternately, you can enter total reference voltage in the corresponding field, **Reference voltage (Total)**, and the per cell voltage adjusts automatically.

7. Click the **Save** diskette button in the upper right-hand corner to save the change. The voltage value in parentheses updates to reflect the new float voltage value.

   Note: The standard position for the **Save** button on the Touch screen is in the upper right corner, as compared to the browser interface, where he **Save** button is routinely placed in the lower right corner.

Setting Float Voltage through the Display Panel

To set float voltage (volts per cell) through the display panel:

1. From the **Main Menu**, select **Sys. Config**.
2. Select **Power System**.
3. Select **General System Config**.

   This selection opens the **GENERAL SYST. CONFIG.** screen.

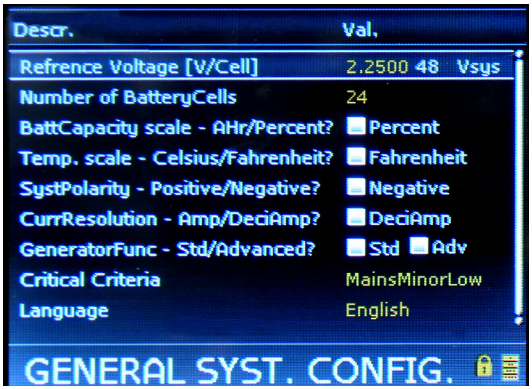


Figure 7 – Setting Float Voltage Using the Display Panel

4. Select **Reference Voltage [V/Cell]**.
5. Enter the PIN. The default PIN is **0003**.
6. Enter the float voltage desired per cell.
7. Press the **[ENTER]** key to save the change.

The float voltage is now set.

Alternately, you can enter total float voltage using the **System Voltages** section of the display; using this method, the per cell voltage adjusts automatically.

To set total float voltage:

1. From the **Main Menu**, select **Sys. Config**.
2. Select **Power System**.
3. Select **System Voltages**.

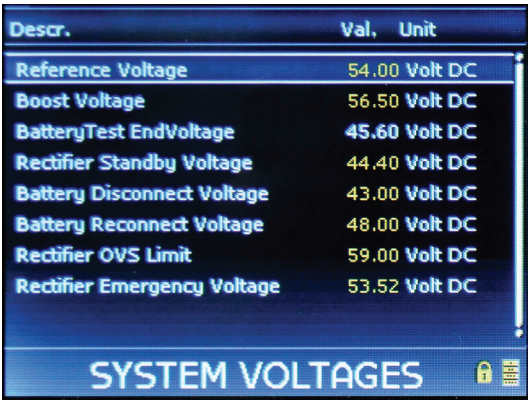


Figure 8 – Setting System Float Voltage Using the Display Panel

4. Select **Reference Voltage**.
5. Enter the PIN. The default PIN is **0003**.
6. Enter the total float voltage; the per cell voltage adjusts automatically.

5. Setting Battery Charging Current Limit

Battery current limit restricts charge current. Eltek controllers have two separate current limit parameters for different power situations: Mains (normal AC utility service) and Generator (AC backup). Generator current limit is only necessary if you are using the Smartpack2 controller to control your generator.

NOTE: A shunt is required in order to use battery current limit.

Setting the Battery Charging Current Limit through the Browser Interface

To set battery charging current limit through the browser interface:

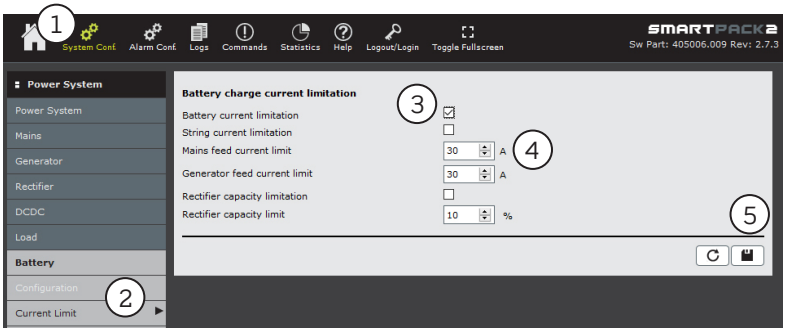


Figure 1 – Setting Battery Charging Current Limit Using the Browser Interface

1. Click on the **System Conf.** icon in the top menu bar.
2. In the left menu bar, click on **Battery** button (below the **Power System** heading), then choose **Current Limit**.
3. To turn on battery current limit, check the box next to **Battery current limitation**.
4. To set current limit values, enter the prescribed maximum current value in the fields for **Mains feed current limit** (normal AC service) and **Generator feed current limit** (if applicable; check site and generator specifications).

NOTE: Normally the value for **Generator feed current limit** is lower than **Mains feed current limit**. If the **Generator feed current limit** is not going to be used, then simply put the same value here as the **Mains feed current limit**.

5. Click the diskette button to save changes.

Setting the Battery Charging Current Limit through the Display Panel

To set battery charging current limit through the display panel:

1. From the Main Menu, select **Sys. Config**.
2. Select **Battery**.
3. Select **Battery Config**. This selection opens the **BATTERY CONFIG.** screen.

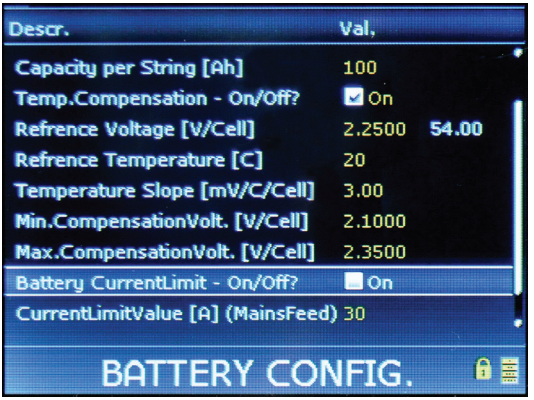


Figure 2 – Setting Battery Charging Current Limit Using the Display Panel

4. Scroll down to **Battery CurrentLimit - On/Off?** and press **[ENTER]** to select it.
5. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)

Figure 3 – Entering PIN

6. Use the **UP** or **DOWN** arrow keys to place a check mark in the box.
7. Press the **[ENTER]** key to save the change.
8. Scroll down to select **CurrentLimitValue [A] (MainsFeed)**.

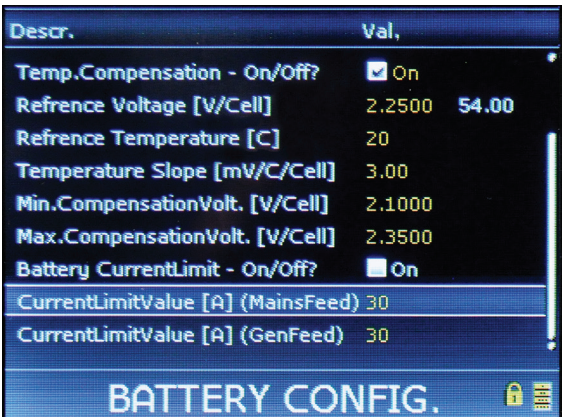


Figure 4 – Current Limit Value (Mains)

9. Enter the current value desired for when the system is on regular AC utility service.
10. Press the **[ENTER]** key to save the change.
11. If a current limit setpoint is desired for AC generator power, then scroll down to **CurrentLimitValue [A] (GenFeed)** and press **[ENTER]** to select it.

    NOTE: Normally the value for **Generator feed current limit** is lower than **Mains feed current limit**. If the **Generator feed current limit** is not going to be used, then simply put the same value here as the **Mains feed current limit**.
12. Enter the current value desired for when the system is on AC generator back-up.
13. Press the **[ENTER]** key to save the change.

    Battery charging current limit is now set.

14. Exit to the home screen.

6. Battery Temperature Monitoring

Battery temperature monitoring is covered in the following sections:

- “Enabling Battery Temperature Probe” (below)
- "Battery Temperature Compensation" on page 30

Enabling Battery Temperature Input

Battery temperature inputs are disabled from the factory. If you connect temperature probes to the controller (Smartpack2 Basic, Smartpack2 Basic Industrial, Smartpack S, Compack), you must enable the input, in order to trigger battery temperature alarms or activate temperature compensation. Battery temperature alarms may be set for individual inputs or as a group of inputs.

Note: If you are using a CAN Node external device (such as the Battery Monitor or FlexiMonitor) for monitoring battery temperature, consult the instructions that came with your device.

Enabling Battery Temperature Input through the Browser Interface

To enable the battery sensor through the browser interface:

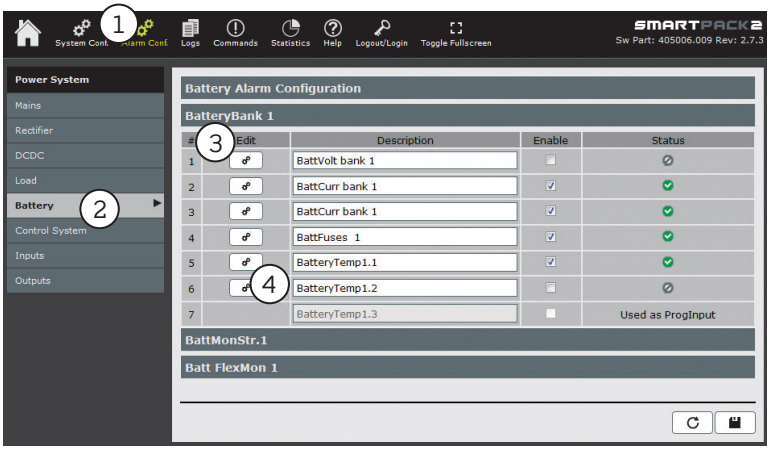


Figure 1 – Setting Battery Temperature Probe Using the Browser Interface

1. Click on the **Alarm Config** icon on the top menu bar.
2. In the left menu bar, click on the **Battery** button.
3. Click on the **BatteryBank1** tab.
4. On **BatteryBank1** tab, Click edit button for BatteryTemp1.x (where x is the input number for the temperature probe connection).
5. On **BatteryTemp1.x** dialog, check **Enable**.

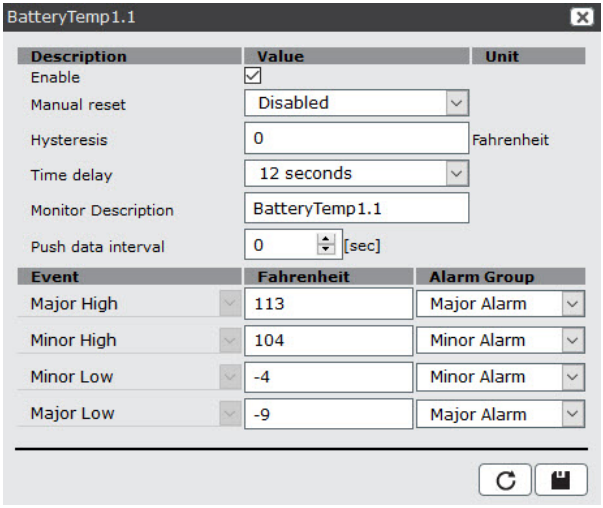


Figure 2 – Setting Battery Temperature Probe Using the Browser Interface

6. Change alarm settings if desired.

   Note: These alarm settings apply only to the specific input (for example, BatteryTemp1.1). If you do not want an alarm for this specific input, set the temperature values outside of the expected range.

7. Save your changes (diskette button), and exit the Battery Temp 1.x dialog.
8. Repeat steps 4-7 for additional inputs.

Note: To apply alarm settings to all Battery Temperature inputs, continue with the additional following steps.

9. To set parameters for all Battery Temperature inputs, begin by choosing the **Battery Alarm Configuration** tab.

Figure 3 – Setting All Battery Temperature Inputs

10. Click the **Battery Temp** edit button (gears).

11. On the **Battery Temp** dialog, set the desired parameters.

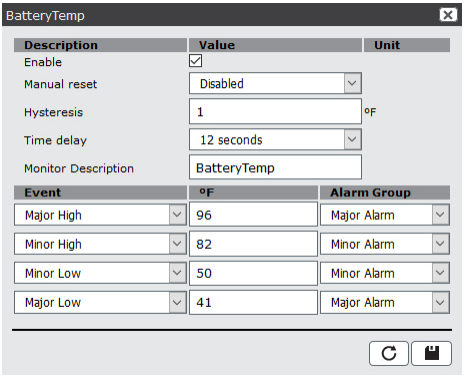


Figure 4 – BatteryTemp Parameters

12. Save your changes (diskette button), and exit.

Enabling Battery Temperature Input through the Display

To enable input:

1. From the Main menu, select **Alarm Config.**
2. Select **Battery**.
3. Scroll down to **BatteryTemp 1.x** (where "x" is the input number to which the probe is connected), and select it by pressing **[ENTER]**.

Figure 5 – Select BatteryTemp 1.x

4. Select **Monitor – Enable/Disable?** (Press **[Enter]**).

Figure 6 – Enabling Temperature Probe Monitor

5. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)

6. Push the **Down** arrow to **Enable**, and push the **Enter** button.

7. Scroll down to Alarm Levels to change alarm settings if desired.

   Note: These alarm settings apply only to the specific input. If you do not want an alarm only for this specific input, set the temperature values outside of the expected range, and finish remaining steps for monitoring all probes.

8. Exit **BatteryTemp 1.x**, and return to the Battery section. Repeat steps 3 – 6 for additional probes.

9. Select **Battery Temp**.

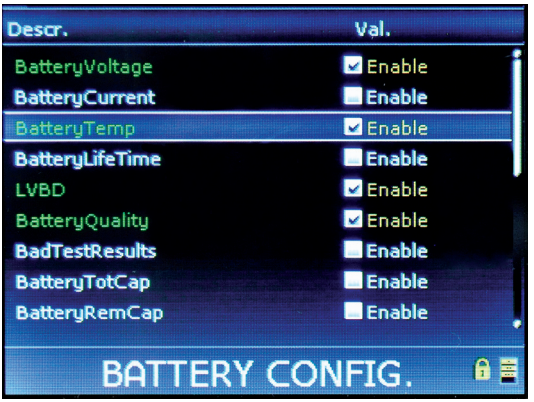


Figure 7 – Enabling Battery Temperature Monitor

10. Select **Monitor – Enable/Disable?** (Press **[Enter]**).

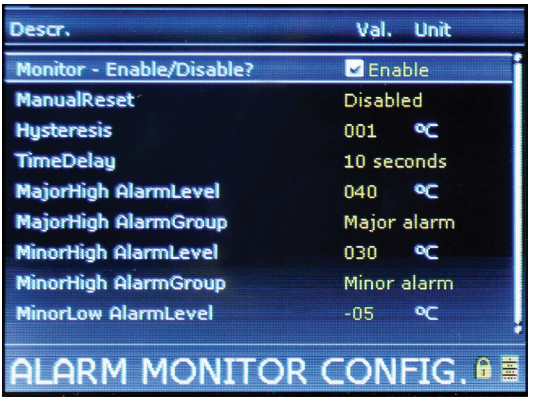


Figure 8 – Battery Temperature Monitor Enable

11. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)

12. Push the **Down** arrow to **Enable**, and push the **Enter** button.

13. Scroll down to Alarm levels to adjust values to the desired parameters.

14. Exit the **Battery** section.

Battery Temperature Compensation

CAUTION: Battery temperature compensation *requires* specifications from the battery manufacturer. DO NOT proceed without having the documented specifications on hand. If unavailable, contact the battery manufacturer directly. Eltek does not provide battery specifications.

Battery temperature compensation adjusts battery charging voltage after a predefined temperature threshold has been exceeded. The reference voltage and temperature slope are specifications provided by the battery manufacturer. Maximum and minimum compensation voltage should also be defined to protect load equipment.

A battery input must be enabled per instructions in "Enabling Battery Temperature Input" on page 25, or using an external CAN Node (such as the Battery Monitor or FlexiMonitor) before enabling Temperature Compensation.

The fields available are:

- **Temperature compensation** – check the box to enable Temperature Compensated Charging parameters. Clicking again on the box (uncheck) disables the parameters.
- **Minimum compensation voltage** – minimum charging voltage per battery cell (protects connected load equipment).
- **Maximum compensation voltage** – maximum charging voltage per battery cell (protects connected load equipment).
- **Reference voltage** – charging voltage per battery cell recommended by the battery manufacturer at the reference temperature specified in the **Reference temperature** field.
- **Reference temperature** – the reference temperature in degrees Celsius that the battery manufacturer specifies for the charging voltage entered in the **Reference voltage** field.

- **Temperature slope** – compensation factor in millivolts per degree Celsius per battery cell recommended by the battery manufacturer.

Setting Battery Temperature Compensation through the Browser Interface

To set battery temperature compensation through the browser interface:

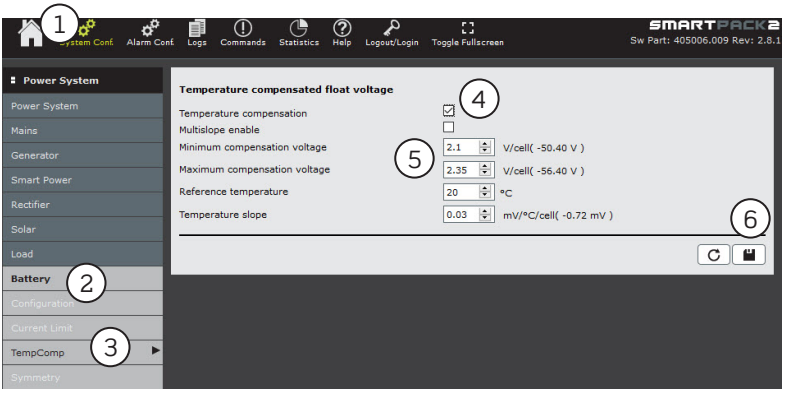


Figure 9 – Setting Battery Temperature Compensation Using the Browser Interface

1. Click on the **System Conf.** icon in the top menu bar.
2. In the left menu bar, click on **Battery** (below the **Power System** heading).
3. Click on **TempComp**.
4. Enable feature by checking the box.
5. Enter settings as required for the batteries. See the descriptions of the fields above.
6. Click on the **Save** button (“diskette”) to save changes.

Setting Battery Temperature Compensation through the Display Panel

To set battery temperature compensation through the display panel:

1. From the Main Menu, select **Sys. Config.**
2. Select **Battery**.
3. Select **Battery Config**. This selection displays the **BATTERY CONFIG.** page.

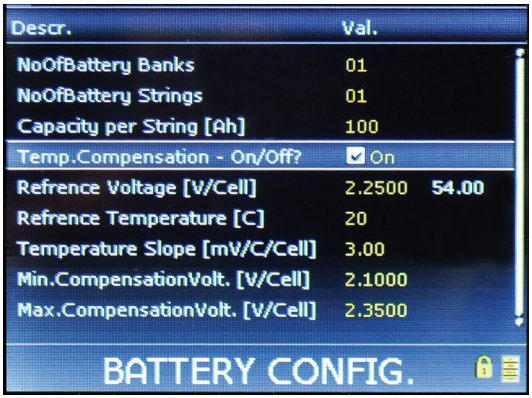


Figure 10 – Battery Temperature Compensation Using the Display Panel

4. Use the down arrow key to scroll to **Temp. Compensation – On/Off?**

   This line and the next five lines are for temperature compensation (down through **Max.CompensationVolt. [V/Cell]**)

5. To enable **Temperature Compensation**, select the box by pressing the **[ENTER]** key, then use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)
6. Use the **UP** or **DOWN** arrow keys to place a check mark in the box.
7. Press the **[ENTER]** key to save the change.
8. Adjust the other parameters as desired. Refer to the parameter descriptions above (page 30) for details.

7. Setting Battery Information

The controller has several features and alarms that need the appropriate battery information to work properly. Features like the capacity function of the generator feature, the battery meter on the home page, and many alarms like **BatteryTotCap** and **BatteryUsedCap**, etc., need to have the initial battery capacity information entered during commission. In addition, the battery discharge test works best when the battery tables are used.

Enabling Battery Information through the Browser Interface

To enable battery information using the browser interface:

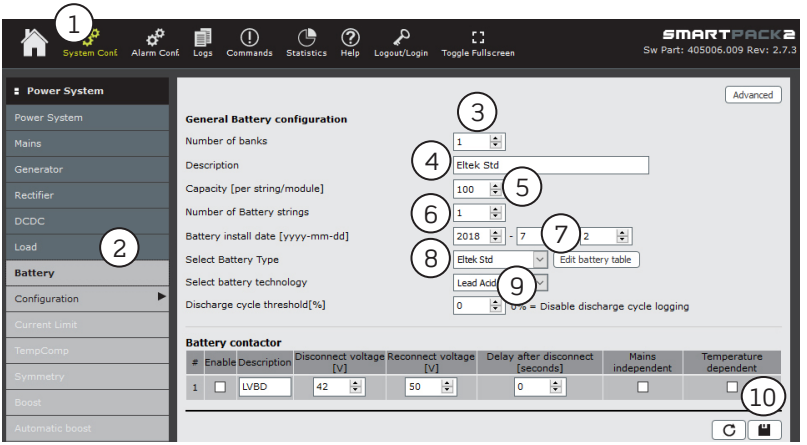


Figure 1 – Setting General Battery Configuration Using the Browser Interface

1. Click on **System Config**.
2. In the left menu bar, click on the **Battery** button.
3. On the parameters section of the page, leave the **Number of banks** at one.
4. Enter a **Description**, if desired.
5. Enter the battery **Capacity** per string.

6. Enter the **Number of Battery strings**.
7. Enter the **Battery Install date**.
8. Select your **Battery Type** (if available), using the drop-down list; or, leave as **Eltek Std**, if using VRLA batteries, and you do not have your own battery table. (For additional details, you may consult the *User Guide: Eltek Controller Web Interface*, Doc. No. 370035.013.)
9. From the **Select battery technology** list, choose the technology that applies to your batteries.
10. Click on the **Save** button ("diskette") to save changes.

Enabling Battery Information through the Display

To enable battery information using the using the display panel:

1. From the Main Menu, select **Sys Config**.
2. Scroll down and choose **Battery**.
3. Scroll down to **Battery Config** and press **[Enter]**.

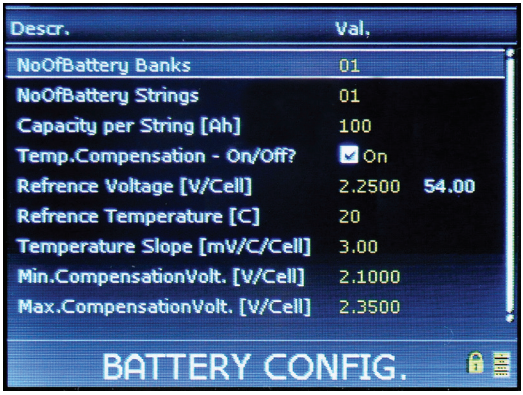


Figure 2 – Battery Configuration Setup

4. Leave the **NoOfBattery Banks** at one (1).
5. Scroll down to **NoOfBattery Strings** and press **[Enter]**.

6. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)

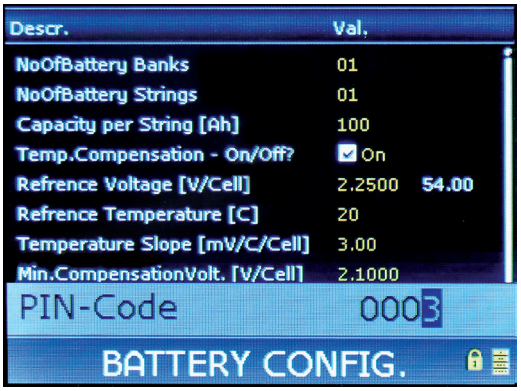


Figure 3 – Battery Configuration PIN Entry

7. Change the value.
8. Scroll down to **Capacity per String [Ah]** and press **[Enter]**.
9. Use **UP** and **DOWN** arrows to change the value.

   Note: If you want to enter the battery install date, or change the battery type, you must use the browser interface, as described in the previous section.

10. Exit the **Battery** section.

8. Setting Battery Voltage Alarm

Battery voltage alarm triggers an alarm when the battery voltage gets too high or too low. The parameters should match the recommendations of your battery manufacturer or company policy. The battery voltage alarm can be adjusted from either the browser interface or the display.

Setting Battery Voltage Alarm through the Browser Interface

To set Battery Voltage alarm parameters through the browser interface:

Figure 1 – Battery Voltage Alarm Configuration

1. Click on the **Alarm Conf.** icon in the top menu bar.
2. In the left menu bar, click on the **Battery** and wait for the list to populate.
3. Under the **Battery Alarm Configuration** bar, find **BatteryVoltage** and click on the **Edit** button (gear symbol). The edit window opens.

4. Locate the **Alarm Monitor** line and check the **Enable** box.

   NOTE: The edit window may vary from revision to revision. Some edit windows have a **General** tab and a **Calibration** tab; if so, click on the **General** tab.

5. Configure parameters as desired. Click the **Save** button (diskette symbol) to save changes.

Setting Alarm Battery Voltage Alarm through the Display Panel

To set alarm Battery Voltage alarm parameters through the display panel:

1. From the Main Menu, select **AlarmConfig**.
2. Select **Battery**.
3. Select **BatteryVoltage,** and then press the **[ENTER]** key.

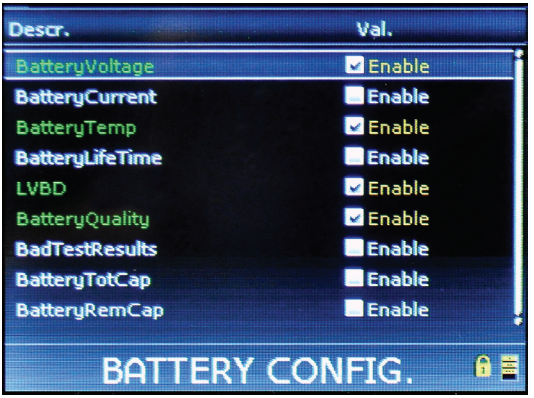
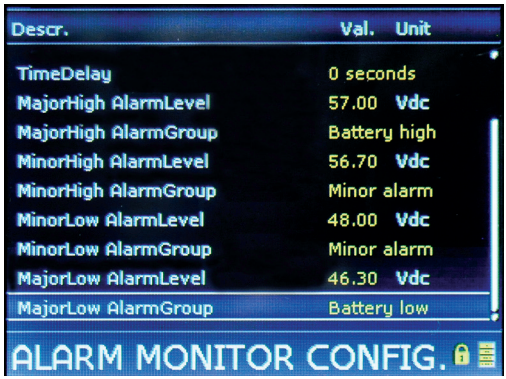


Figure 2 – Enabling Battery Voltage

4. Select **Monitor – Enable/Disable?**

Figure 3 – Enabling Battery Voltage Alarm

5. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)
6. Use either the **UP** or **DOWN** arrow key to place a check mark in the box.
7. Press the **[ENTER]** key to save the change.
8. At the bottom of the page is where alarm thresholds are set. For **Battery Voltage** there are four events: **Major High**, **Minor High**, **Minor Low**, and **Major Low**. Each event has an **Alarm Level** setting (voltage setting) and **Alarm Group** setting (for output relay assignment). Use the **[ENTER]** key to select an event parameter to change. Use the **UP** and **DOWN** arrow keys to adjust the settings. Press the **[ENTER]** key to save.



Setting Alarm Group Assignments

9. Exit the Battery section.

9. Configuring Output Relay

Alarm settings are configured in the **Alarm Configuration** section of both the browser interface and display menus. Alarms are assigned to alarm groups. Alarm groups, in turn, are assigned to output relays. These assignments are user-configurable.

As the following diagram illustrates, this section explains how to set up alarm inputs (Internal Alarm Parameters in this example), how to assign the parameters to alarm groups, and how to assign alarm groups to output relays.

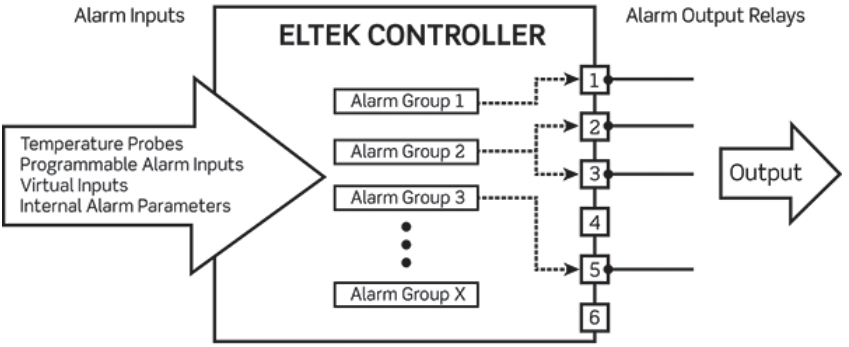


Figure 1 – Alarm Groups to Output Relays

NOTE: Each controller has different output interfaces:

- The Smartpack2 Touch controller does not have any output relays built in; instead, an Eltek I/O Monitor is required. I/O Monitors feature six output relays.
- The Smartpack2 controller does not have any output relays built in; instead, an Eltek I/O Monitor is required. I/O Monitors feature six output relays.
- The Compack controller has three output relays; they are located on the top of the controller.
- The Smartpack S controller has six output relays; they are located on the left side of the controller (when viewed from the front).

Figure 2 – Configurable Inputs

Note: To make alarm connections to the Smartpack R controller, check the installation manual for your system. Connections to the Smartpack R are not made directly to the controller, but to the interface on the power system.

Output Alarm Relays

Output alarm relays are form-C contacts that are triggered if mapped to one or more alarm groups.

Setting Output Relays through the Browser Interface

Note: Each controller has different functionalites and, therefore present those options in the columns that are displayed at the top of the screen. The following screenshots are representative of different controllers.

Only configure alarm relay outputs, leaving default settings for the **Battery Contact** and **Load Contact** on the **Smartpack S**, **Compack** and **Smartpack R** controllers.

Additionally, do not rename the first seven (7) alarm groups, as this will not change functionality, but could cause confusion. For example, renaming **Mains Alarm** to **High Voltage Alarm** does not change the function of that alarm group, but instead will display the name **High Voltage Alarm** during an AC failure; it still monitors the **Mains Alarm**.

To set output relays through the browser interface:

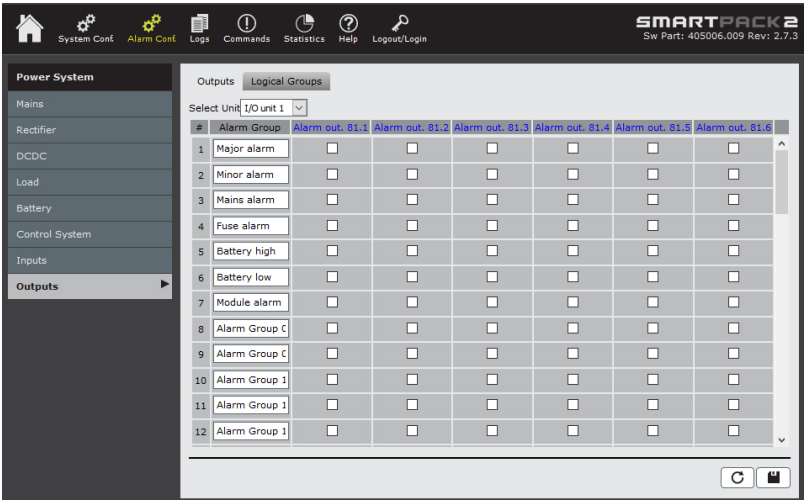


Figure 3 – Alarm Outputs Page (Smartpack2 Controller)

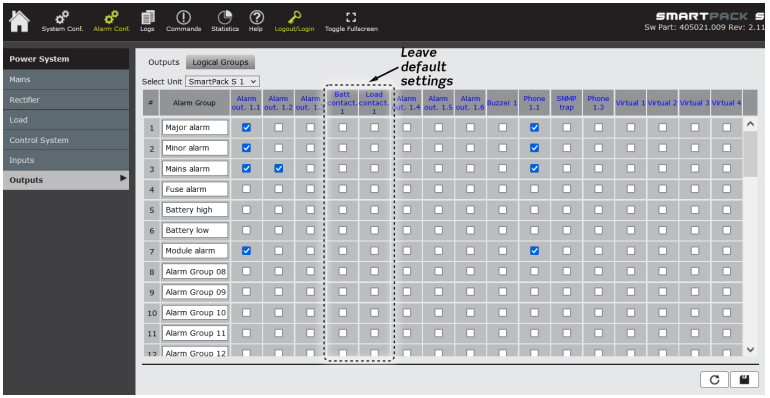


Figure 4 – Alarm Outputs Page (Smartpack S Controller)

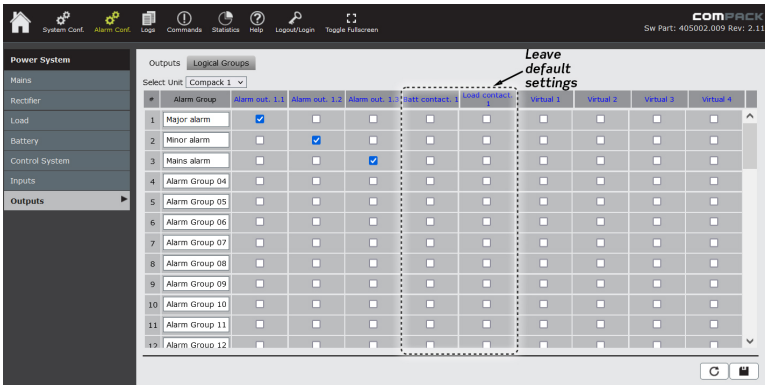


Figure 5 – Alarm Outputs Page (Compack Controller)

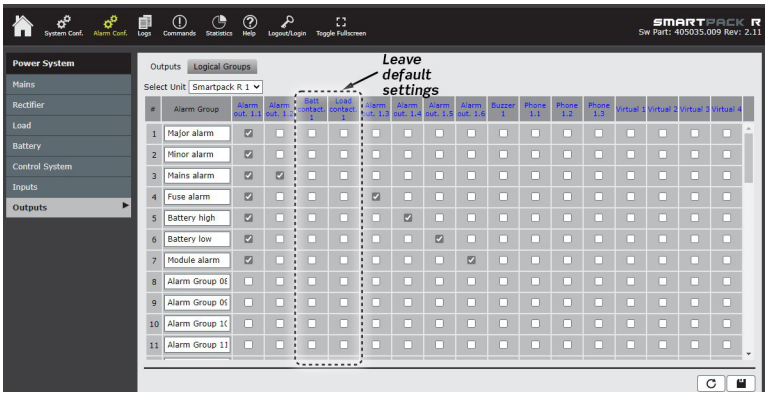


Figure 6 – Alarm Outputs Page (Smartpack R Controller)

1. Click on the **Alarm Conf.** icon in the top menu bar.
2. In the left menu bar, click on **Outputs** and wait for the list to populate.

   NOTE: At the top of the window is a drop-down list called **Select Unit**. Use this to select the control unit to which the alarms are connected. This is particularly important for the Smartpack2 Master controller, since the unit itself only has an audible buzzer to assign to the alarm groups. For the **Smartpack2** controller, **I/O Monitors** are required for external alarm input and output; the appropriate I/O Monitor must be selected in the drop-down menu in order to modify alarm relay assignments.
3. For each alarm group that should trigger an output relay, place a check in the box under the relay(s) desired. Relays can be assigned to multiple alarm groups, and alarm groups can trigger multiple relays.
4. Change alarm group names as desired to reflect the alarm to be indicated by that group. Click in the **Alarm Group** field to edit the name.
5. Click the **Save** button (the diskette symbol) to save changes.

Setting Output Relays through the Display Panel

To set output relays through the display panel:

1. From the Main Menu, select **AlarmConfig**.
2. Use **DOWN** arrow to find **Outputs** and press **[ENTER]** to select **Outputs**. Wait for the page to populate, which can take about a minute to complete.

NOTE: All available alarm relays from all controllers and monitors in the system are listed on this page.

Figure 7 – Setting Output Relays Using the Display Panel

3. Use the **Right Arrow** to jump through multiple screens to access the I/O Monitor Outputs in the Smartpack2. Press the **[ENTER]** key to select an alarm group.
4. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)
5. Use the **RIGHT** and **LEFT** arrow keys to point to the output relay that the alarm group should trigger. Use the **UP** and **DOWN** arrow keys to place a check mark in the box. Press **[ENTER]** to save the change.

   More than one relay can be selected. Note that there are six output alarm relays for the Smartpack2 controller (using the I/O Monitor2 device).

Output alarm relays are set. Use the same process for other alarm groups as needed.

10. Alarm Relay Test

The alarm relays can be tested manually through both the browser interface and display.

CAUTION: Testing alarm relays causes alarm conditions. Make sure monitoring equipment and personnel are aware of such testing and will not be adversely affected. It is not recommended to test alarm relays from an off-site location!

CAUTION: Some controller units list low-voltage disconnect (LVD) contactors. Activating these contactors will open them and disconnect any batteries or loads connected!

Testing Output Relays through the Browser Interface

To test output relays through the browser interface:

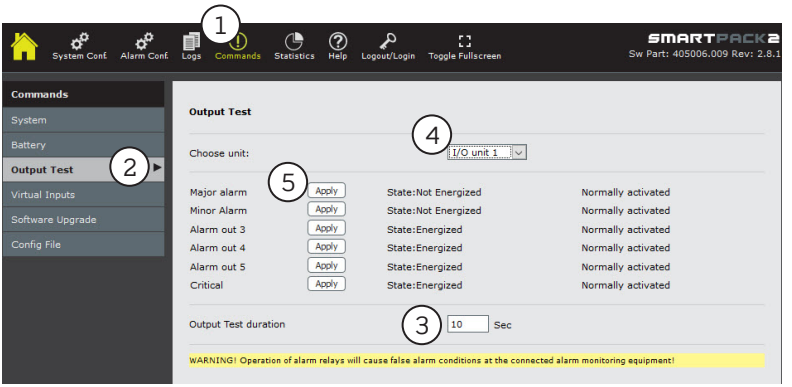


Figure 1 – Testing Output Relays Using the Web Interface

1. Click on the **Commands** icon in the top menu bar.
2. In the left menu bar, click on **Output Test**.
3. All output relays for the unit indicated in the **Output Test** box are displayed. The duration of the test can be set by changing the number of seconds in the **Output Test duration** box.

NOTE: The **Output Test duration** setting is only available in the browser interface or the Smartpack2 Touch screen.

4. Use the **Output Test** drop-down menu to select the control unit to which the alarms are connected. This is particularly important for the Smartpack2 Master controller, since the unit itself does not have any output relays. For the Smartpack2 controller, I/O Monitors are required for external alarm output; the appropriate I/O Monitor must be selected in the drop-down menu in order to test alarm output.

5. Click the **Apply** button to change the state of the relay. The state change lasts for as long as specified in the **Output Test duration** box.

Testing Output Relays through the Display Panel

To test output relays through the display panel:

1. From the Main Menu, select **Commands**.

2. Select **Output Test**.

3. All output relays for the unit indicated in the **Output Test** box are displayed.

   NOTE: The **Output Test duration** setting is only available in the browser interface or the Smartpack2 Touch screen. The duration is 10 seconds by default

Figure 2 – Testing Output Relays Using Display Panel

4. Select an output relay to test.
5. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)
6. Press the **[ENTER]** key to execute the test, or select the **[X]** key to cancel.
7. Repeat for additional relays.

Alarm relay test is complete.

11. Setting Site Information

NOTE: Site information can be set only through the browser interface or the Smartpack2 Touch controller, not through the display. However, site information is readable through the display at the following path:

Main Menu › Logs/Reports › Inventory Report

In the browser interface, site information is set on the **System Info** page, where details about the site and the power system installation are entered. Entering a field value is optional, but it is highly recommended for future identification, maintenance and traceability.

The following fields are available (refer to Figure 1).

- **Company** – Name of the company that owns the power system
- **Site** – Name and/or ID of the site
- **Model** – Power system model (refer to documentation provided with the system)
- **Serial Number** – System serial number or other identification number
- **Install Date** – Installation date (year, month, day)
- **Service Date** – Date of latest service (year, month, day)
- **Responsible** – Person or company that serviced the power system
- **Message lines (1 and 2)** – Free-form fields for any messages related to services performed on the power system (results, unresolved issues, etc.)
- **Latitude** – Latitude of the site (degrees, hours, minutes, hemisphere [north or south])
- **Longitude** – Longitude of the site (degrees, hours, minutes, direction [east or west])
- **Elevation** – Site elevation (in meters)

To Set Site Information through the Browser Interface

To set site information through the browser interface:

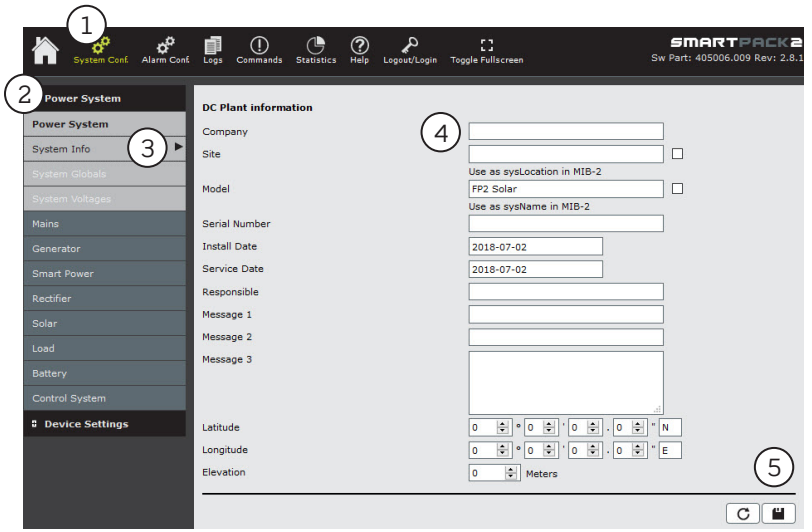


Figure 1 – System Information Page

1. Click on the **System Conf.** icon in the top menu bar.
2. In the left menu bar, click on **Power System**.
3. Click on **System Info**.
4. Fill in the fields as desired. All fields are optional.
5. Click on the save icon (diskette) to save changes.

12. Configuration Backup

Configuration backup is an important part of system configuration. The configuration file allows you to restore your system to a previous state after a replacement unit is installed, or if unauthorized or undesirable changes have been made.

Eltek programs the controller from the factory with a default configuration, but any changes made in the field need to be saved. Eltek has provided two ways to accomplish this task, but each method has its own limitations.

Overview

The following sections provide a description of the different methods.

- Full Backup
- Save Change Log to XML (ver. 2.5 or later)

Note: Backups do not retain the IP address settings and SNMP configuration.

Full Backup

A full backup downloads a complete “snapshot” of the controller settings and can be used to program a controller that has been reset to factory defaults. This method gives you a file with an extension of .HEX for every piece of the controller (for example, Master controller, Basic controller, and all CAN devices).

These files can be uploaded individually via the front display or via the browser interface and will restore the controller to the configuration when the file was saved.

Note: These files are good only for the controller and software revision for which it was saved. This means that these backup files should not be used on replacement controllers, and need to be redownloaded after any software upgrade.

Save Change Log to XML (ver. 2.5 or later)

This method downloads an XML file based on changes recorded in the controller's change log. This file can be used to configure a controller after a replacement has been installed, or configure multiple controllers in similar systems.

This method is very quick, and gives you a single file, with an extension of .XML (Changelog.XML) for all controller pieces (Master, Touch, Basic, Basic Industrial, Smartpack S, SmartpackR, or Compack, and CAN Nodes).

This file can be used for replacement controllers, even if the software has been updated since the file was generated. You must use the browser interface to generate this file.

Procedures

Note: 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.

The following sections describe different backup procedures applicable to various controllers.

- Smartpack2 Master controller – Use the display to save a HEX file to the controller SD card; or use the browser interface to save a HEX or an XML file to a computer.
- Smartpack2 Touch controller – Use the browser interface to save a HEX or an XML file to a computer.
- Smartpack S controller – Use the display to save a HEX file to the controller's internal memory; or use the browser interface to save a HEX or an XML file to a computer. (To retrieve a copy of a backup file on the controller's internal memory, you must use an FTP client to copy the file to a computer.)
- Smartpack R controller – Use the browser interface to save a HEX or an XML file to a computer.
- Compack controller – Use the browser interface to save a HEX or an XML file to a computer.

Before making a backup with a Smartpack 2 Master, verify that an SD card is present, and properly inserted in the SD card slot. Slide the lever on the front of the controller from right to left, in order to access the SD card slot.

Figure 1 – Smartpack2 Master Controller Display and SD card slot

Making a Full Backup through the Display (Smartpack2 Master, Smartpack S)

To backup your system configuration using the display:

1. On the display, push the **Up** and **Down** Arrows + **Enter** ↵ to unlock.

2. From the Main Menu, using the navigation keys on the display, navigate to the icon on the screen labeled **Up/Download**, and then press the **Enter** key.

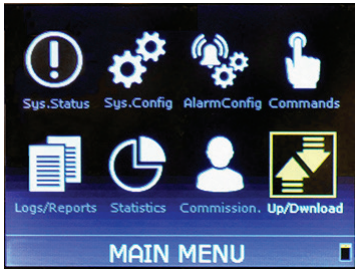


Figure 2 – Smartpack2 Master main menu icons

3. Choose **Save/Load Config**, and press **Enter**.

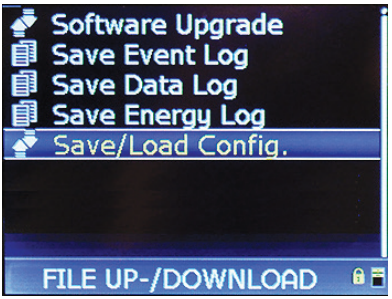


Figure 3 – Save/Load Config

4. Choose **Save Config. to file**, and press **Enter**.

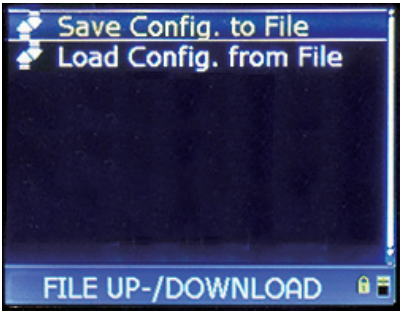


Figure 4 – Saving Config File

5. On the new screen, choose **SP2 Master 11** (**Smartpack S_1**), and press **Enter**.

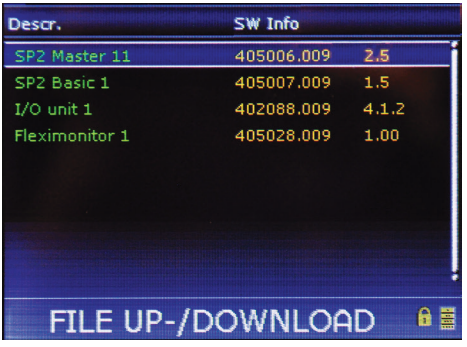


Figure 5 – Choosing Master Controller

6. At the prompt, navigate with the **Arrow Up** key. Use **UP** and **DOWN** arrow keys to enter the **PIN** (default PIN is **0003**). Press **[ENTER]** to accept. (Press and hold **[ENTER]** for Smartpack S.)

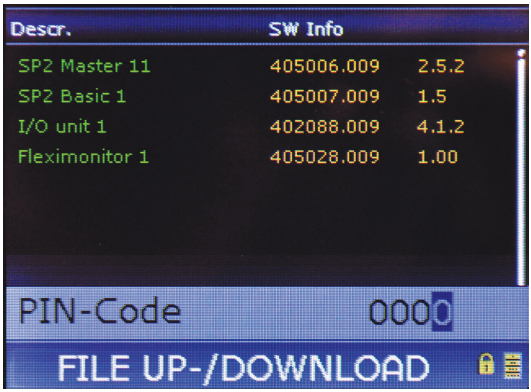


Figure 6 – Smartpack2 Master PIN code prompt

7. Observe that the lock pad on the lower right corner on the screen shows it in the open position; then press **Enter** again.

   The message "Writing data to file system" appears on the lower screen to indicate that the configuration is being saved. The process will take several minutes.

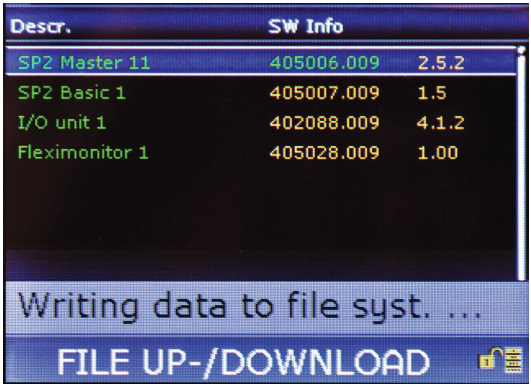


Figure 7 – Smartpack2 Master "Writing data" message

8. Continue to choose, one-by-one, the next control units listed on the screen and repeat the previous steps, until the configuration for the last item in the list has been saved.

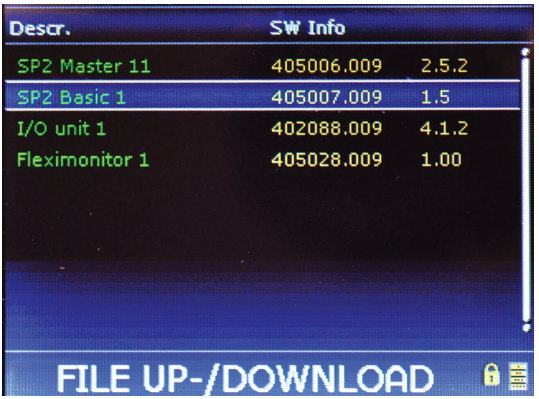


Figure 8 – Choosing additional control units

Note: Files are saved in a folder named CONFIG on the SD card or controller memory.

This concludes the procedure for making a backup of the system configuration before an upgrade.

Making a Full Backup through the Browser Interface

To make a full backup using the browser interface:

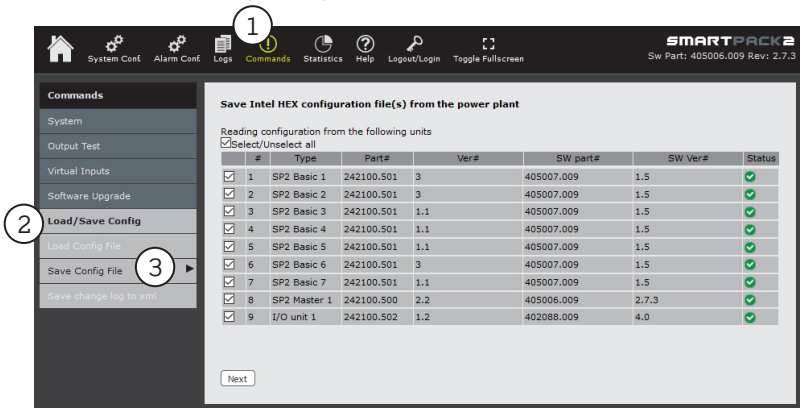


Figure 9 – Saving a Configuration File

1. From the home screen, click on **Commands** >**Load/Save Config.** › **Save Config. File.**
2. Select (check) all the items for backup.

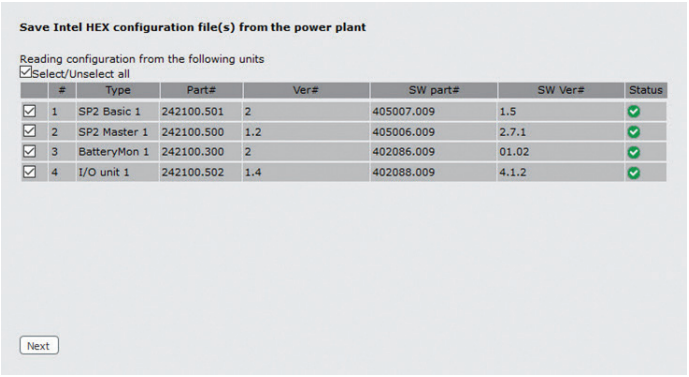


Figure 10 – Select Items for Backup

3. After selecting the controller modules, click **Next**.
4. Click **Start reading files**.

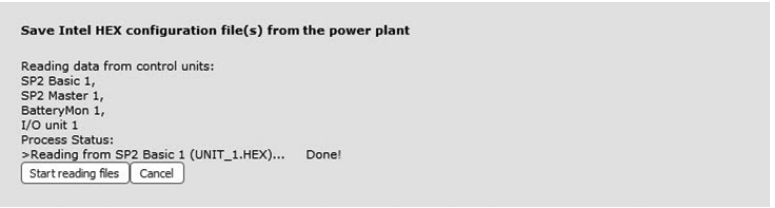


Figure 11 – Start Reading Files

5. A message appears: "Loading...The selected file will be read!" Click **OK** on this dialog box.

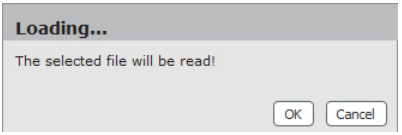


Figure 12 – File Loading Message

6. A progress bar appears, indicating that the file is being generated. After the file is generated, you will see another dialog, giving you the option to open or save the generated file. Choose the option for **Save File**, then click **OK**.

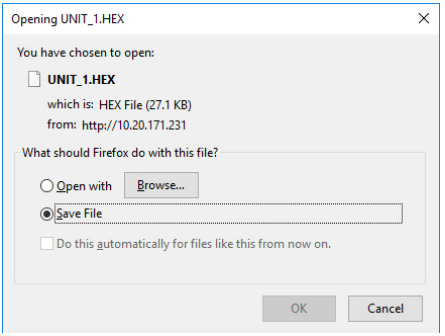


Figure 13 – Save File Dialog

7. After you save a configuration file, the screen returns to the previous page and you are given options, based upon your original

choice(s) of which file(s) to save. If all of your selected files (Figure 10) have been saved, click the **Back** button. If you previously selected multiple configuration files, and there are any files remaining, click the **Start reading files** button again, to begin saving the next file. Click **Back** after the last file has been saved.

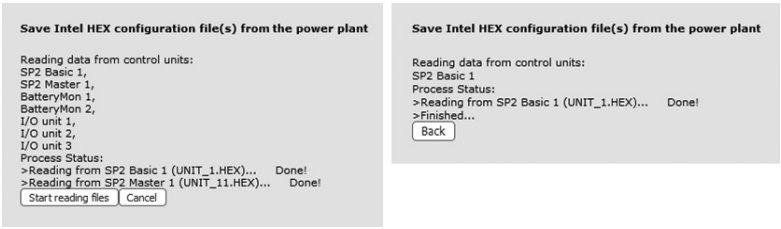


Figure 14 – Options After Saving Files

After you click the **Back** button, the screen returns to the **Save Intel HEX configuration file(s)** page (Figure 10). From there you can quit or navigate to other portions of the web browser interface.

8. Locate the backup files in the **Downloads** folder in the Windows operating system. Copy the files to an archive where they can be easily retrieved if needed.

Making an XML Backup from the Change Log (Browser Interface)

To make a backup from the change log (requires version 2.5 or later):

1. Click **Commands › Load/Save Config › Save change log to XML**.

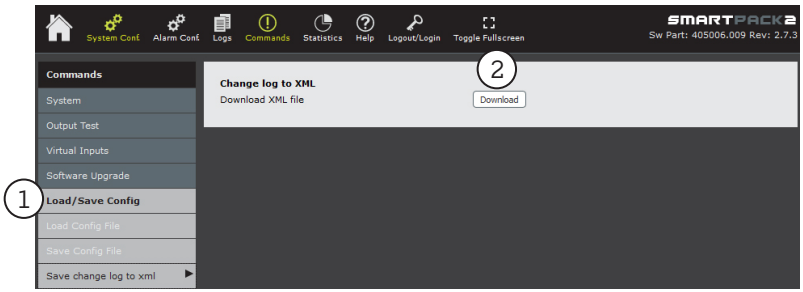


Figure 15 – XML Backup from Changelog

2. Click the **Download** button.

3. Click **Save File** and then **OK**.

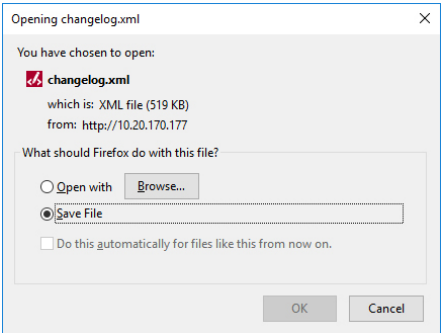


Figure 16 – Save File Dialog

4. Find the file in the **Downloads** folder; it will be called **changelog.xml**. Rename the file with a distinctive name to identify it with your system. Archive the file in a place where it can be easily retrieved if needed.

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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