Smartpack2 Touch Field Installation

These instructions explain how to replace a Smartpack2 Master in the field with a Smartpack Touch Controller. Details are covered in the following sections:

Note: Some installation tasks require the use of a laptop computer, with an Ethernet connection to the controller. If your laptop does not have an Ethernet port, make sure to obtain an Ethernet adapter for your computer before beginning the installation process.

The following documents are provided with this controller:

- For additional information regarding the *Smartpack2 Touch Controller*, see *Smartpack2 Touch Controller: Ports and Navigation* (Doc. No. 370135.033.
- For additional information on configuring the controller, see the *Configuration Guide: Eltek Controllers* (Doc. No. 370013.063).

Download the following documents from eltek.sharefile.com:

- *Navigation and Menu Tree: Smartpack2 Controller* (Document No. 370017.033)
- *Software Upgrade Procedure: Smartpack2 Controller –* (Doc. No. 370036.063).

For hardware installation tasks, you will need the following tools:

- Phillips screwdriver
- Torque screwdrivers, T8, T10

WARNING: Prior to installing the controller, review and heed all safety warnings and precautions contained in the installation manual for your system.

Introduction

A Smartpack2 Master in the field has the system configuration with customer configuration changes made since the system was installed. These configuration changes are stored in the controller memory under the field **Change log**. You need this changelog during the controller retrofit process, in order to transfer system configuration details to the new Smartpack2 Touch controller. You will retrieve this changelog after backing your system and updating the firmware. The process is described in the following sections.

Backup Your System Configuration

Your 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.

For instructions about how to make a full backup through the display of your system configuration, follow 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.

Upgrade Existing Controllers

Smartpack2 Controllers with revision 2.6.2 or earlier need to upgrade to an intermediate step before updating to the most recent version. The intermediate firmware is located on SD card 1 (5630102039 SD1). Follow the steps below to determine which version you have and if necessary update to the intermediate revision:

1. Ensure that the system is running normally, without any alarms. If any alarms are present, investigate and resolve them before going further.

2. Unlock the Smartpack2 Master display and access the controller menu on the front of the screen. If you need further instructions on unlocking and using the controller display, refer to the document, *Navigation and Menu Tree: Smartpack2 Controller* (Document No. 370017.033). (If you do not have this document handy, you can download it from eltek.sharefile.com.)

3. Using the navigation keys on the keypad, navigate to the icon on the screen labeled **Up/Download**, and then press the **Enter** key.

4. Choose **Software Upgrade**, and press **Enter**. The controller then displays the list of all available items that can be upgraded.

5. Examine the controller screen and compare the existing software versions in the far right column, if **SP2 Master 11** is revision 2.6.2 or earlier, insert **SD card 1** into the SD port. If it is version 2.7.x or later, skip to the next section, "Upgrade Existing Controllers 2," on page 3.

6. On the controller screen, using the UP or DOWN arrows, choose **SP2 Master 11**, and press Enter. The controller will request the upgrade PIN code (see following step). **Note:** The Master controller performs a reboot after the programming has concluded and sets the screen back to home.

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7. At the prompt, to enter the PIN code: Use the Arrow Up to key to increase the number one digit at a time. Start with the first digit on the right and use the Left arrow to move to the next digit, and so on. The upgrade PIN code is **0709**. After setting the PIN code, press the **Enter** key.

8. Observe that the lock pad on the lower right corner of the screen is in the open position. Press the **Enter** key again. The programming process of the selected unit will begin. A message, such as "Programming" or "Reading file from SD card", appears on the display during this process. The programming process takes about 5 minutes. **Note:** Alarm lights on the on the controller may illuminate during the programming process.

9. The Programming message will fade when the programming is completed.

10. Return to the **Up/Download** menu by unlocking the Smartpack2 Master display and access the controller menu on the front of the screen, and then press the **Enter** key.

11. Choose **Software Upgrade** and press Enter. Verify that **SP2 Master 11** is revision **2.7.1**. If so, move on to the next section. Otherwise, verify that all steps above were completed and repeat or call technical support.

Upgrade Existing Controllers 2

It is important to upgrade all controllers in the system to the most recent revision before downloading the configuration. The most recent firmware files are located on SD Card 2 (5630102040 SD 2). Detailed instructions (with screen shots) for updating controllers can be found in the *Software Upgrade Procedure: Smartpack2 Controller* (Doc. No. 370036.063). (If you have not already obtained this document, you can download it from **eltek.sharefile.com**.

Table 1 – List of Smartpack2 Controllers and CAN nodes with corresponding Software

Controller- Node part number	Device name	SW part number	File name
242100.500.VC	Smartpack2 Master	405006.009	SP2MAST.BIN SP2MAST.CRY* *Encrypted binary file
242100.501.VC	Smartpack2 Basic	405007.009	SP2BAS.MHX
242100.601.VC	Smartpack2 Basic Industrial	405019.009	SP2BASIN.S19
242100.603.VC	Fleximonitor	405028.009	FLEXIMON.S19
242100.300.VC (Hardware, v. 1 – 3)	Battery Monitor Type 1	402086.009	BATTMON.HEX
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

To update the firmware for your controller(s):

1. You should already be at the **Software Upgrade** menu, if not return to this menu to begin upgrading all the controllers in the system.

2. Examine the controller screen and compare the existing software versions in the far right column, with the versions in the READ ME file on the SD2 card. If your **SP2 Master 11** is the version on the READ ME file, the master does not need to be updated. Update other controller modules, if

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they are not up to the revision numbers listed in the READ ME file. If all the elements in your control system meet or exceed the revisions in the list, you can skip to the next section, "Downloading the XML Changelog."

3. If updating the Smartpack2 Master Controller, use the UP or DOWN arrows, and choose **SP2 Master 11**, and press **Enter**. The controller will request the upgrade PIN code (see following step). **Note:** The Master 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 Master controller last.

4. At the prompt, to enter the PIN code: Use the Arrow Up to key to increase the number one digit at a time. Start with the first digit on the right and use the Left arrow to move to the next digit, and so on. The upgrade PIN code is **0709**. After setting the PIN code, press the **Enter** key.

5. Observe that the lock pad on the lower right corner of the screen is in the open position. Press the **Enter** key again. The programming process of the selected unit will begin. A message, such as "Programming" or "Reading file from SD card", appears on the display during this process. The programming process takes about 5 minutes. **Note:** Alarm lights on the on the controller may illuminate during the programming process.

6. The Programming message will fade when the programming is completed. **Note:** If you update the Master controller first, you will need to retrace your steps to the list of controllers, in order to select the next unit for upgrade, and then follow the remaining steps for each element being updated.

7. Repeat steps to upgrade additional units in the system.

8. The upgrade of the system is complete when the last unit has been programmed. The new software information is displayed on the controller screen after it automatically times out, or if it is manually set back to the home screen. Go back to the **Software Upgrade** screen to refresh the controller list. Confirm that the software versions on the controller list reflect the updated versions listed above.

-- This concludes the software upgrade procedure using the SD card.--

Downloading the XML Changelog

After you have completed the preceding steps, and your controllers are at the most recent revision, you can download the changelog. This is different than the configuration backup you previously made (Backup Your System Configuration, page 2). This XML file is downloaded using the web browser interface; the procedure is covered in the chapter on "Configuration Backup," in the *Configuration Guide: Eltek Controllers*, Doc. No. 370013.063.

The XML file will not record the following items

- User account names and password, if different from the default
- SNMP settings
- TCP/IP settings

Record these parameters (written down or screen shots), so that you can enter the data into the Touch. Do this before removing the Master from the system.

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Transferring Configuration Data

To configure the Smartpack Touch controller, you will connect the Touch to the control system while keeping the Master in place and then load the XML file saved in the previous section. Complete the following tasks:

- Connect the Smartpack2 Touch Controller
- Upload the XML File

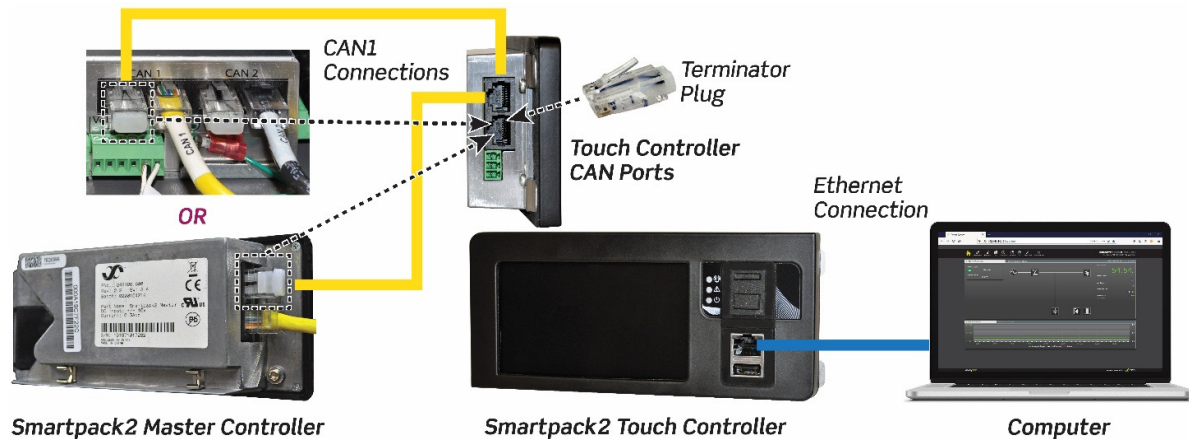### Connect the Smartpack2 Touch Controller

Figure 1 – Controller Connections

1. Remove the CANBUS terminator plug from the Smartpack2 Master or other the termination point in your system (the termination location varies by system; see Figure 1). If your system has two (2) CAN buses labeled CAN 1 and CAN 2 (four ports total), use only CAN 1. Do not discard the plug, because you will need it in step 4.

   Note: On some systems, the terminator plug is on a secondary control unit, such as an I/O Monitor2.

2. Connect the (provided) CAT5 cable into the empty CANBUS port

3. Connect the other end of the CAT5 cable to a CANBUS port on the Smartpack2 Touch controller. This action connection will power-up the Touch controller.

   Note: When viewing the front of the Smartpack2 Touch controller, the CAN ports are on the left side of the controller (see Figure 1).

4. Insert the terminator plug into the empty CANBUS port on the Smartpack2 Touch.

5. Connect a CAT5 Ethernet cable (customer supplied) from your computer into the Ethernet port at the front of the Smartpack2 Touch controller.

Upload the XML File

1. Open a web browser and enter the IP address of the Smartpack2 Touch controller, which is by **10.10.0.1**, into the URL bar of the browser.

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> **Note:** The front Ethernet port on the Touch controller is for direct computer-to-controller connections (not a LAN connection); it automatically assigns your computer an IP address. Therefore, you do not need to configure your computer to communicate through this port. If you are unfamiliar with the Eltek web browser interface, see the *Configuration Guide: Eltek Controllers*, Doc. No. 370013.063.

2. Login to the Smartpack2 Touch controller. The default login credentials are:
   User: admin,
   Password: admin

3. Navigate to **System Configuration > Control System > Dual Master**.

4. Assign address **12**, click the **Save** button (diskette), and refresh the page to verify that the address is **12**.

5. Navigate to **Commands > Config file > Load Config file**, and click the **Browse** button.

6. **Upload Config file** (.xml) previously downloaded from the Smartpack2 Master controller ("Downloading the XML Changelog," page 4). Wait until upload is complete (100%).

7. Refresh the page; you are taken back to the home.

8. Navigate to the **Commands** page.

9. One at a time, click **Apply** for the following commands: **Reset Number of Modules** and **Delete Event Log**.

   Note: If you have a system with a large number of rectifiers, resetting the number of modules, give the system a few moments for the system to update.

10. Configure items not included in XML, as stated in the previous section (page 4). Remember to click the **Save** button (diskette) on each page after making changes

11. Return to the **Commands** page and click **Apply** for **Reboot System**

After you have completed this process to transfer the configuration data, you can replace the Smartpack2 Master Controller with the Smartpack Touch Controller. This hardware installation is summarized in the next section, "Installing the Smartpack2 Touch Controller."

Installing the Smartpack2 Touch Controller

Before installing the Touch controller, ensure that you have updated all controllers in your system, and have transferred configuration data from the Smartpack2 Master Controller to the Smartpack2 Touch, as described in the preceding sections. If you have completed these tasks, you are ready to install the Smartpack2 Touch into your system. This hardware installation consists of two basic tasks:

- Removing the Smartpack2 Master Controller (next section)
- Installing the Smartpack2 Touch Controller (page 7)

Removing the Smartpack2 Master Controller

To remove the Smartpack2 Master Controller:

1. Disconnect any cables used to connect the controllers and computer in the previous task, as well as CAN and Ethernet cables connected to the Smartpack2 Master Controller.

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2. Remove the ground connection on the Smartpack2 Master Controller.

   Note: When removing the ground connection and the controller, retain the ground screw with the controller, in case the controller is to be repurposed elsewhere. There is a separate ground screw supplied in the kit for the new Touch Controller.

3. Remove the Smartpack2 Master Controller from the door of your system. The controller can be released by pressing the plastic mounting clips found on the back edges of the controller.

Installing the Smartpack2 Touch Controller

To install the Smartpack2 Touch Controller:

1. Working at a bench, or other suitable location, place the Smartpack Touch controller face down on a clean surface. This will make it easier to install the mounting screws and jumper.

2. Install the supplied jumper. (This jumper provides termination for Modbus functionality, should that ever be required in your system.)

3. Using a Torque screwdriver (T10), install the four mounting screws onto the outside edges of the back of the controller. Do not tighten, but leave enough space to allow the brackets to slide into position; the brackets will be installed in Step 5.

   Note: At this point, you should also remove the green terminal block (on the right side of the controller), to make it easier to install and mount the controller in the ensuing steps.

Figure 2 – Mounting Brackets and Screws in Position

4. If necessary for your system, install the flexible gasket that is included in the kit. The use of this gasket is **optional**, and only recommended in cases where extra protection against dust is required.

   Note: The following steps assume that you are accessing the controller from behind the door, which is routine for most systems. If you are installing a Touch Controller on a **BDFB** system, you need to remove the controller panel on the front of the system, to replace the Smartpack2 Master and install the Smartpack Touch controller. Make the Ethernet, CAN bus, and ground connections on the rear of the controller (Steps 7 –.10), before replacing the panel.

5. Insert the Smartpack2 Touch Controller into the door mount. Align it, by sliding the brackets into place, as shown in Figure 2.

   Note: Each bracket slides in a particular direction over the screws, before resting in place.

6. Tighten the mounting screws using a Torque screwdriver (T10).

7. Install and tighten the ground screw using a Torque (T8) screwdriver.

8. Replace the terminal block, previously removed in Step 3.

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9. Connect the CANBUS cable(s) to the Touch, as previously connected to the Master. If two CAN cables are connected to the Touch, install the terminator plug in an open position on another controller element.

10. Connect the Ethernet cable, previously connected to the Master, to the side Ethernet port on the Touch controller. The side port is for the LAN connection.

Resetting the Controller Address

After you have installed the Smartpack2 Touch Controller, reset the controller address

1. Navigate to **System Configuration > Control System > Dual Master**.

2. Assign the address back to **11**, click the **Save** button (diskette), and refresh the page to verify that the address is **11**.

Installation of the Smartpack2 Touch Controller is now complete.

If you wish to make additional changes to your configuration, see the *Configuration Guide: Eltek Controllers* (Doc. No. 370013.063).

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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