

Alber Battery Xplorer

Battery Monitoring

System Startup Guide

Compatible Products Include:

BDSU-50 System

Battery Monitor Controller (UXCM) and Battery Module
(UXBM/50)

Universal Xplorer Industrial Battery Monitor (UXIM)

Universal Xplorer Telecom Battery Monitor (UXTM)

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1. General Battery Monitoring (BDSU) Information

The sections in this guide provide information on how to successfully start up the following products:

- BDSU-50 System Universal Control Module (UXCM) and the Universal Xplorer Battery Module (UXBM/50). Refer to the Vertiv Universal Battery Diagnostic System (BDSU-50) Battery Monitor For Cabinet and Open Rack Applications Installation Guide (4200-114) for installing and setting up the hardware. The BDSU-50 system is equivalent to the BDSUi. The information in this document applies to both BDSU-50 and BDSUi products.
- Universal Xplorer Industrial Battery Monitor (UXIM). Refer to the Vertiv Universal Xplorer Industrial Monitor (UXIM) Battery Monitor Installation Guide (4200-106) for installing and setting up the hardware.
- Universal Xplorer Telecom Battery Monitor (UXTM) Refer to the Vertiv Universal Xplorer Telecom Monitor (UXTM) Battery Monitor Installation Guide (4200-097) for installing and setting up the hardware.
- For details on how to enter Battery Xplorer fields and prompts refer the context sensitive online help text by pressing F1.

This process ensures proper functionality and integrity of the system installation.



Warning: Only properly trained personnel should perform the operations described in these guides.

Use this Guide for installing and setting up the Battery Xplorer software on system computers.

1.1 Battery Xplorer Client Platform Supported

The Battery Xplorer monitoring application supports Microsoft Windows client platform.

1.2 Battery Xplorer Hardware System Requirements

The Battery Xplorer monitoring application requires certain hardware to be setup before the software is installed. The following list provides a general guidance on Battery Xplorer System hardware requirements:

- Processor – Pentium 4 or better
- RAM – 2 GB
- Software disk space – approximately 200 MB or more
- Ethernet 100 mbps or better

1.3 Battery Xplorer Software System Requirements

The Battery Xplorer monitoring application requires certain software components to be available. The following list provides the supported software components required before Battery Xplorer System software is installed:

- Microsoft Windows XP Professional, SP 2 or above
- Adobe Reader version 9.0 or above

1.4 Battery Xplorer Software Components

During the Battery Xplorer installation, the following software components are installed on your system:

- VC 2005 Runtime
- Microsoft .NET Framework version 4.0

1.5 Recommended Tools

The following tools are recommended:

- Clamp on current meter/multimeter, Fluke 336 or equivalent.
- Temperature probe, Fluke 80T-IR or equivalent.
- Laptop computer or equivalent.

1.6 Precommission Startup Tasks

Before powering up a battery monitoring device, make sure that all devices are properly mounted and accessible for servicing. Check to validate that no tasks were missed when doing the installation. Verify that the following tasks are complete before powering up a battery monitoring device. Use the following list of steps to successfully complete the startup.



Note: Depending on the requirements for the installation, some of these steps may not be needed.

Start Up Task	Reference Information
Verify Hardware Configuration for the Battery String being Monitored	Verify that the device's model number is the correct version for the type of battery being monitored. Some shipments may include different models, so make sure that each device is verified. Refer to the Battery Monitor Installation Guide for more information on checking configurations.
Verify all components are securely mounted	Refer to the Battery Monitor Installation Guide for more information on mounting devices.
Verify all electrical connections are secure	Refer to the Battery Monitor Installation Guide for more information on installing connections to devices.
Verify sense lead connections are installed correctly	Refer to the Battery Monitor Installation Guide for more information on sense lead cable connections to devices.

Start Up Task	Reference Information
Place cell number labels on back of device to identify all monoblocs in an open rack.	Refer to the Battery Monitor Installation Guide for more information on identifying all monoblocs.
Verify all current sensors are connected correctly (float current and discharge current)	Refer to your specific battery monitor Installation Guide for more information on current sensor connections to devices.
Verify temperature probe connections are installed correctly	Refer to the Battery Monitor Installation Guide for more information on temperature probe cable connections to devices.
Verify load cable connections are installed correctly	Refer to the Battery Monitor Installation Guide for more information on load cable connections to devices.
Verify all fiber optic connections do not exceed bend or maximum length	Refer to the Battery Monitor Installation Guide for more information on fiber optic cable connections to devices.
Verify Intellislot cards are installed correctly (if applicable)	Refer to the Battery Monitor Installation Guide for more information on installing Intellislot cards into devices.
Verify USB port is connected (if applicable)	Refer to the Battery Monitor Installation Guide for more information on connecting a portable computer for service or data analysis.
Verify remote alarm reset and contacts are installed correctly	Refer to the Battery Monitor Installation Guide for more information on alarm reset and contact connections to devices.
Power up units and check LED status indicators	Refer to Battery Monitor Product Description Guide for more information on Panel Controls and Indicators on devices.
Verify voltage readings with a Fluke meter	Refer to this guide for specific battery system specifications and information on correct load voltage current transducer measurements.

Table 1 – Startup Task List (Continued)

2. Installing the Vertiv Battery Xplorer Software Application

To install the Vertiv Battery Xplorer Software Application to verify and configure the battery monitoring system, follow these steps:

1. Insert the Vertiv Battery Xplorer CD and double click on **Install** or browse the CD for the **setup.exe** file.
2. Follow the prompts in the Vertiv Battery Xplorer InstallShield wizard by clicking **Next**.



Figure 1 – Battery Xplorer Installation Welcome Window

3. Click **Install**.

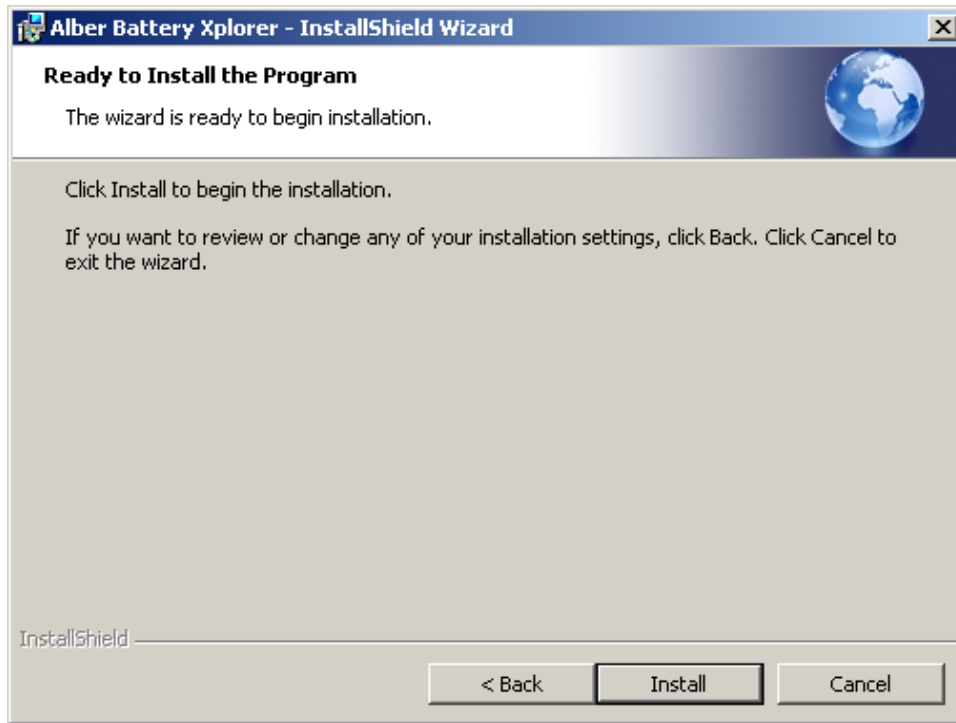


Figure 2 – Ready to Install Battery Xplorer Program

4. Click **Finish** and the software installation for the Battery Xplorer application is complete.



Figure 3 – Battery Xplorer Installed Complete

3. Powering up the Battery Monitor Device and Connecting the Computer

3.1 Power Up the Monitor

To power up the battery monitoring system, insert the fuses if applicable in the first and last fuse leads on the first string (if using multiple strings in parallel).

3.2 Connect the Computer

Using the supplied cable (2025-108), connect the computer to the USB connector on the front of the device. Start the software by selecting the Battery Xplorer under the Vertiv program group. Do this by clicking **Start, All Programs, Alber, Battery Xplorer**, then **Battery Xplorer**.

4. Setting up the Battery Xplorer System Configuration

4.1 System Setup

To setup the Battery Xplorer monitoring application software system configuration, follow these steps:

1. Double click on the **Battery Xplorer** icon or click **Start, All Programs, Alber, Battery Xplorer** then **Battery Xplorer**. The Welcome to Battery Xplorer window will appear.
2. Since this is a new system, click **System Setup**.

Note: If you closed the Welcome window, from the main menu select, **Setup, Wizards** then **System Setup**.



Figure 4 – Welcome to Battery Xplorer

3. Click **New**.



Figure 5 – Battery Xplorer System Setup

4. The system will launch the setup wizard to assist in the creation of the battery monitor configuration file and enter a configuration file name (xyz.mcfg) “where xyz is the customer configuration file name” for the Battery Xplorer. Click **Save** to save the file. The system prompts the user for working Online or Offline.

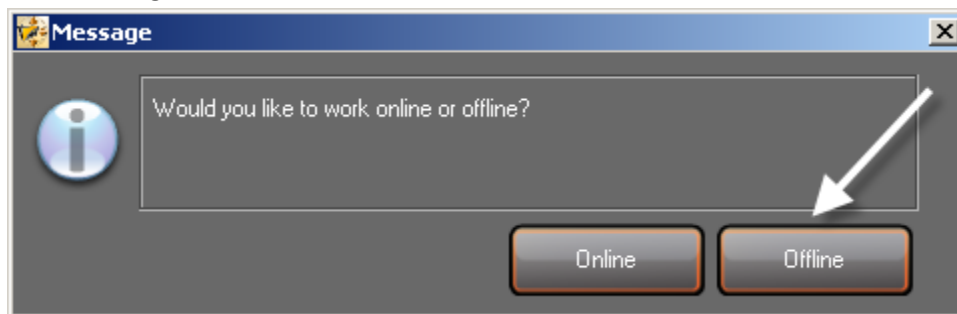


Figure 6 – Online or Offline Message Prompt

5. Click **Offline**. In offline mode, you may continue to go back and forth to make changes until satisfied with all changes made.
Note: In Online mode, you can only go through the changes once. If you want to make further changes online, all previous information will be over written. Existing data that was entered previously will be lost.

4.2 Setup Wizards

To setup the Battery Xplorer monitoring application software configuration, use the Setup wizard to enter customer site information.



Note: Filling out this worksheet is optional. It is not required, but is recommended for gathering your information.

1. On the **Welcome** window, click the optional **Worksheet** button and fill out the optional worksheet, print out the worksheet for future reference and save the file as a different name to the Resources Files folder. When finished, close the editing software by clicking on the X in the top right corner.

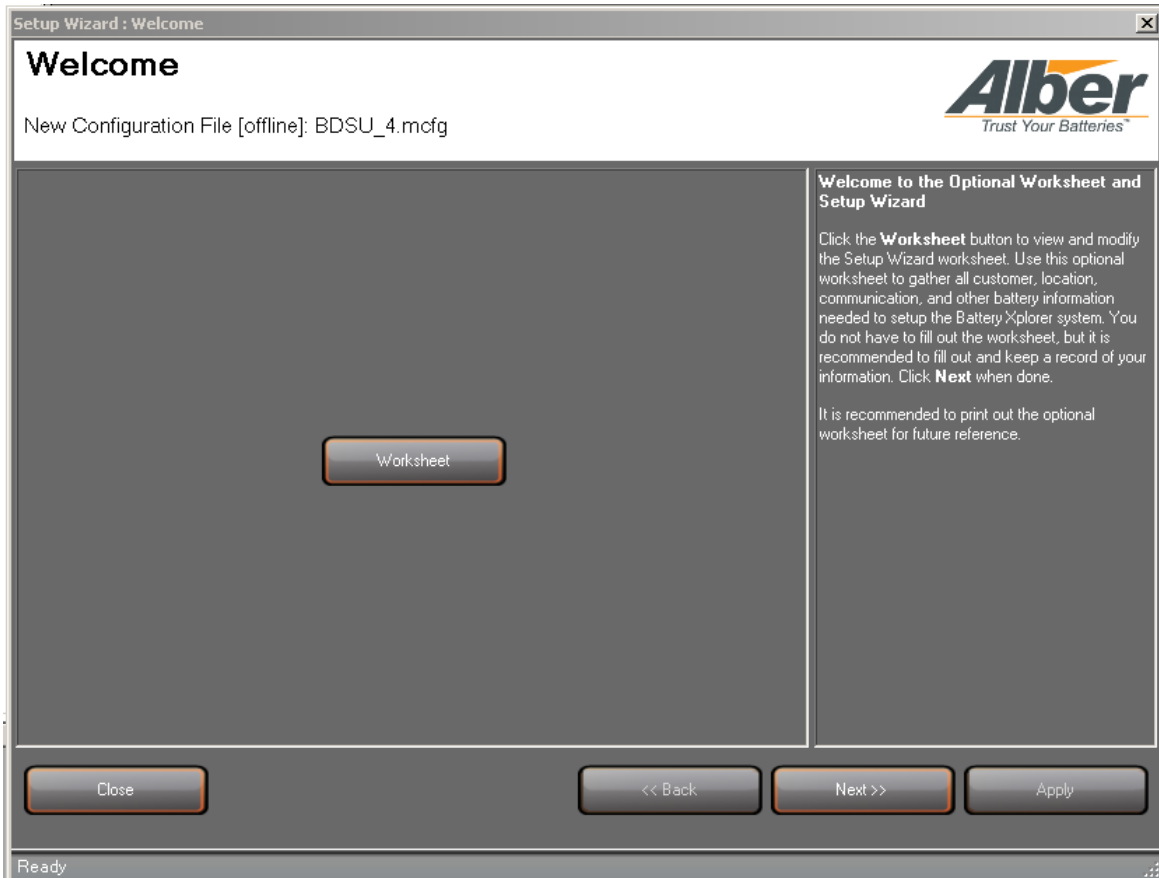


Figure 7 – Battery Xplorer System Worksheet

2. Click **Next**.

3. Enter the customer region (address and contact) information.

Figure 8 – Customer Region Information

4. Click **Apply** then **Next**.

5. If the location information is the same as the customer region information, click the check box and all customer/region information will be copied to the location page. Alternatively, if the information is different, enter the customer location (address and contact) information.

Setup Wizard : Location

Location

New Configuration File [offline]: BDSU_5.mcfg

Copy Customer Information

Address Information

Location Name*

Address

City

State

Zip Code

Contact Information

Contact Name

Phone Number Ext.

Mobile Phone

Fax Number

EMail

Setup Wizard Location

Enter the Battery Xplorer owner's Location and Contact Information. Entries can be made to all fields in this window.

Note: Location Name is required. To save time, click to select the **Copy Customer Information** checkbox to automatically populate the fields.

When all entries are complete, click **Apply**, then click **Next**.

Close << Back Next >> Apply

All fields beginning with * must be entered.

Figure 9 – Customer Location Information

6. Click **Apply** then **Next**.

4.3 Setup Wizard - Battery Configuration

To setup the Battery Xplorer monitoring application software configuration, enter the battery configuration information.

1. Create a new battery by clicking **Create New Battery**. Alternatively, you may choose an existing battery if one has already been created previously.

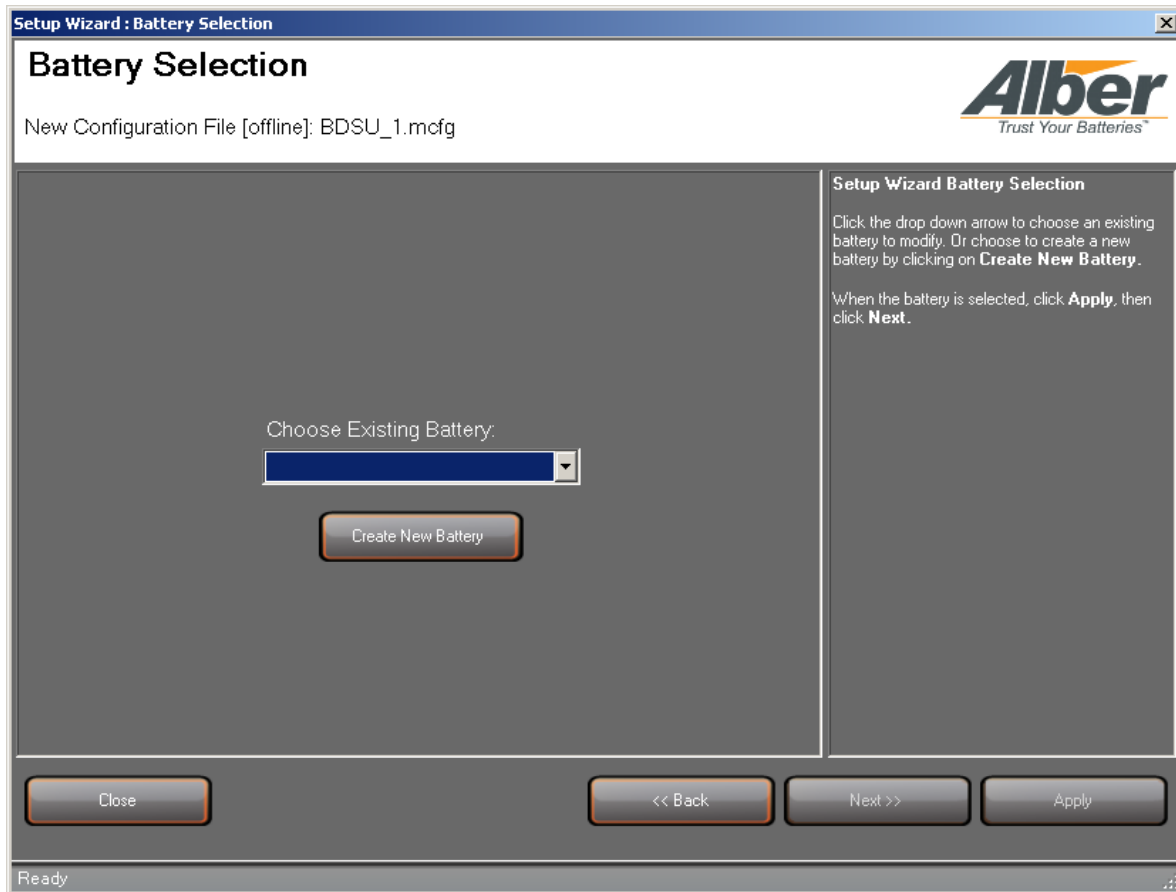


Figure 10 – Choose Existing Battery

Setting up the Battery Xplorer System Configuration

2. Enter the new battery configuration name and enter the number of strings in the configuration (minimum is 1 and maximum is 32 strings).

Setup Wizard: Create New Battery

Create New Battery

New Configuration File [offline]: BDSU_1.mcfg

Battery Configuration

Battery Name:

Number of Strings: (Limit 32)

Create a New Battery Configuration

A battery consists of one or more parallel strings. Enter a battery name and the number of strings, 1 through 32 for this battery.

- **Battery Name** - enter the description name of the battery. The default description name for the first battery is "Battery_1."
- **Number of Strings** - enter the number of strings, the minimum is 1 and the maximum limit is 32.

Note: The battery name is the assigned name that identifies the battery at the location. It is not the manufacturer or model number.

When all entries are complete, confirm battery name and number of strings by clicking **Apply**, then click **Next**.

Close << Back Next >> Apply

Minumum number of strings is 1, maximum is 32

Figure 11 – Create New Battery

3. Click **Apply** then **Next**.



Note: If only one string is needed, then the Battery String Names window does not appear. You must have two or more strings in order to view the Battery String Names list.

Each string can have its own unique string name.



Note: A battery string name is the assigned name that identifies the string that is currently being monitored within a battery.

4. If you have more than one string, review the list of battery string names; modify the string name if desired. Confirm the battery string names once complete.

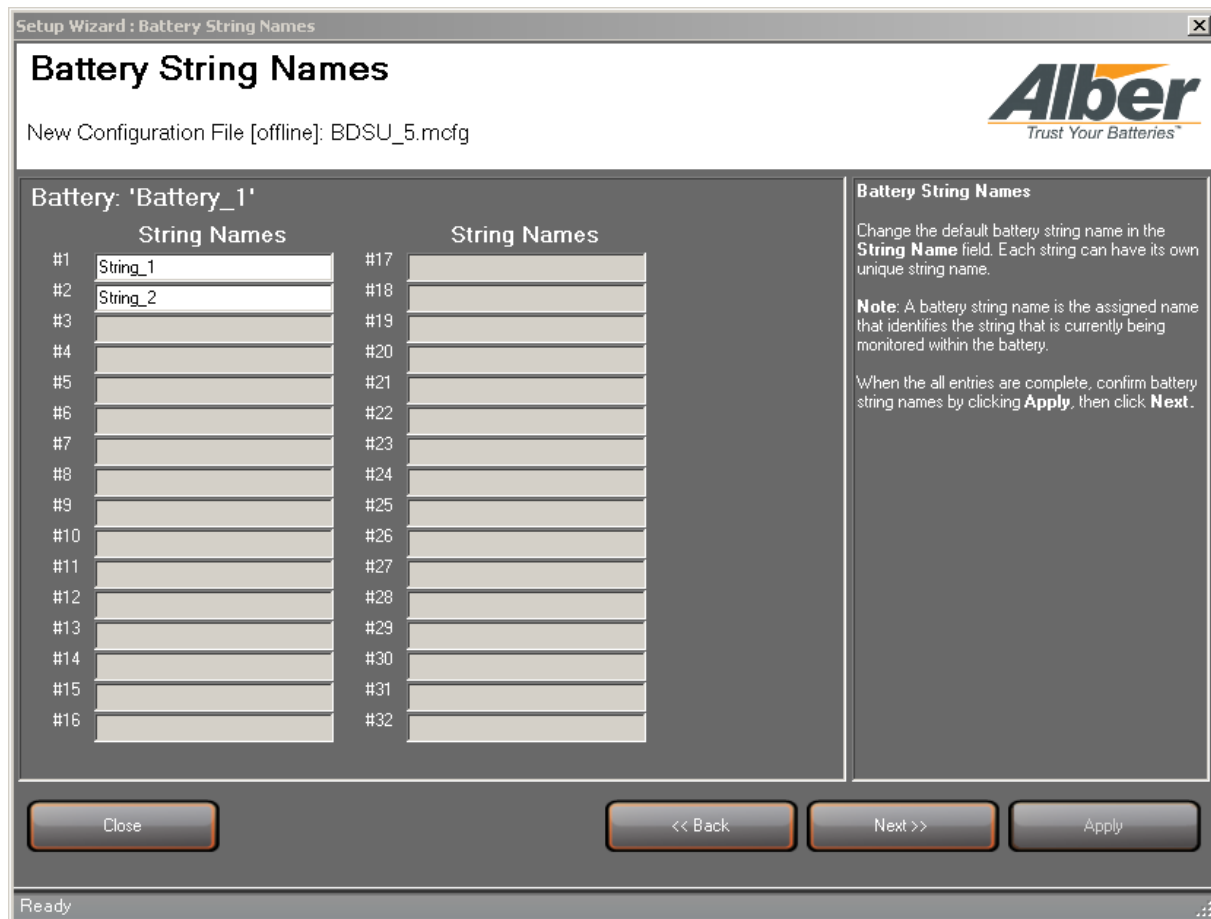


Figure 12 – Battery String Names

5. Click **Next**.

4.4 Setup Wizard – Strings Setup

To setup the Battery Xplorer monitoring application software configuration, enter the string information, a cell/jar manufacturer name must be selected. Also select any optional monitored parameters. Use the GUI help in the right panel of this window or refer to the online help text for detailed information about these fields.



Note: Number of Measurement Points must be in the range of 1 through 320.

1. Enter the string setup configuration information.

Figure 13 – Battery Strings Setup/Configuration

2. Click **Apply** then **Next**.

Setting up the Battery Xplorer System Configuration

3. Enter the strings optional monitored parameters configuration information. The amperage is determined by the size of your system for the current transducer ratio. The current transducer measures the current going through the cable.
4. Ambient temperature must be set to one or two.
5. If float current, ripple current individual cell temperatures or intercell resistances are used, select them by clicking the checkbox.

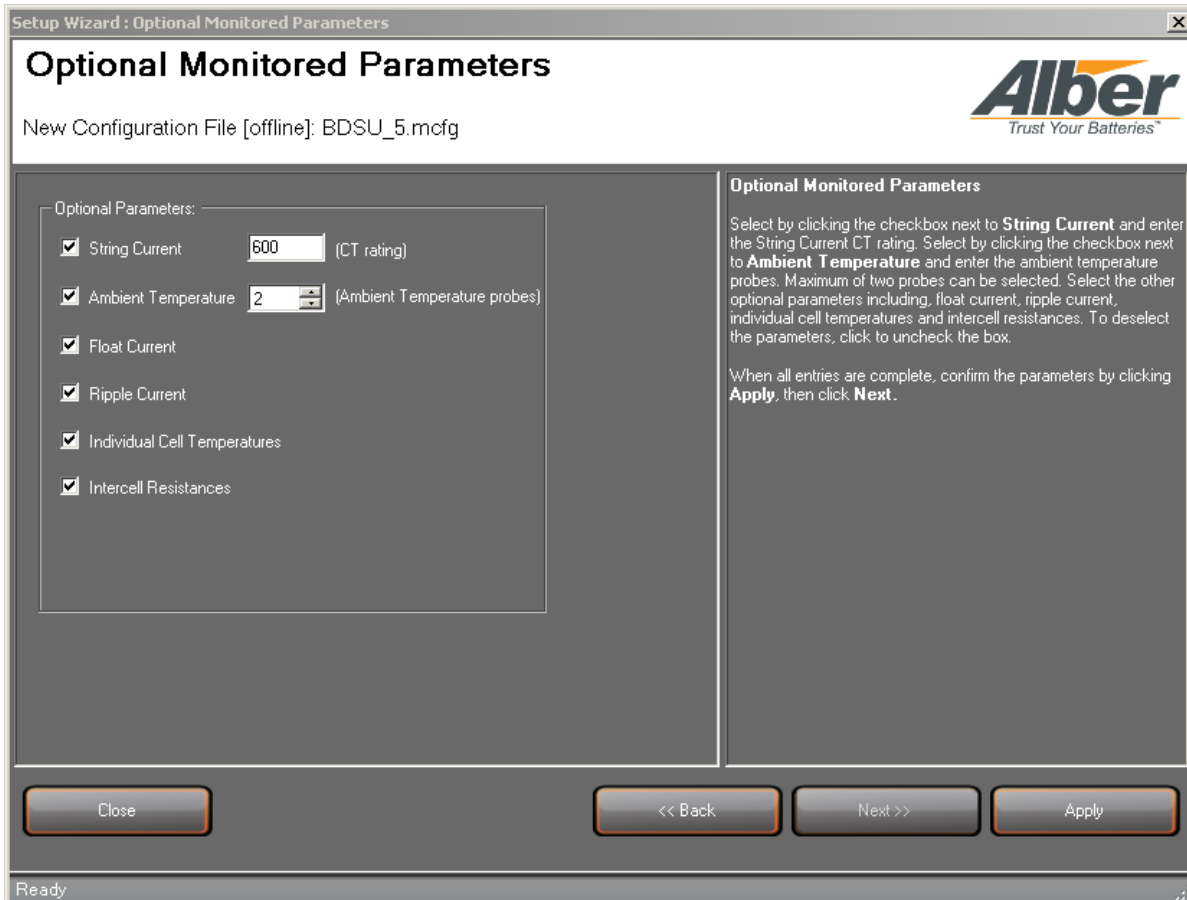


Figure 14 – Optional Monitored Parameters

6. Click **Apply** then **Next**.

7. Add more batteries if your battery monitoring configuration requires it.

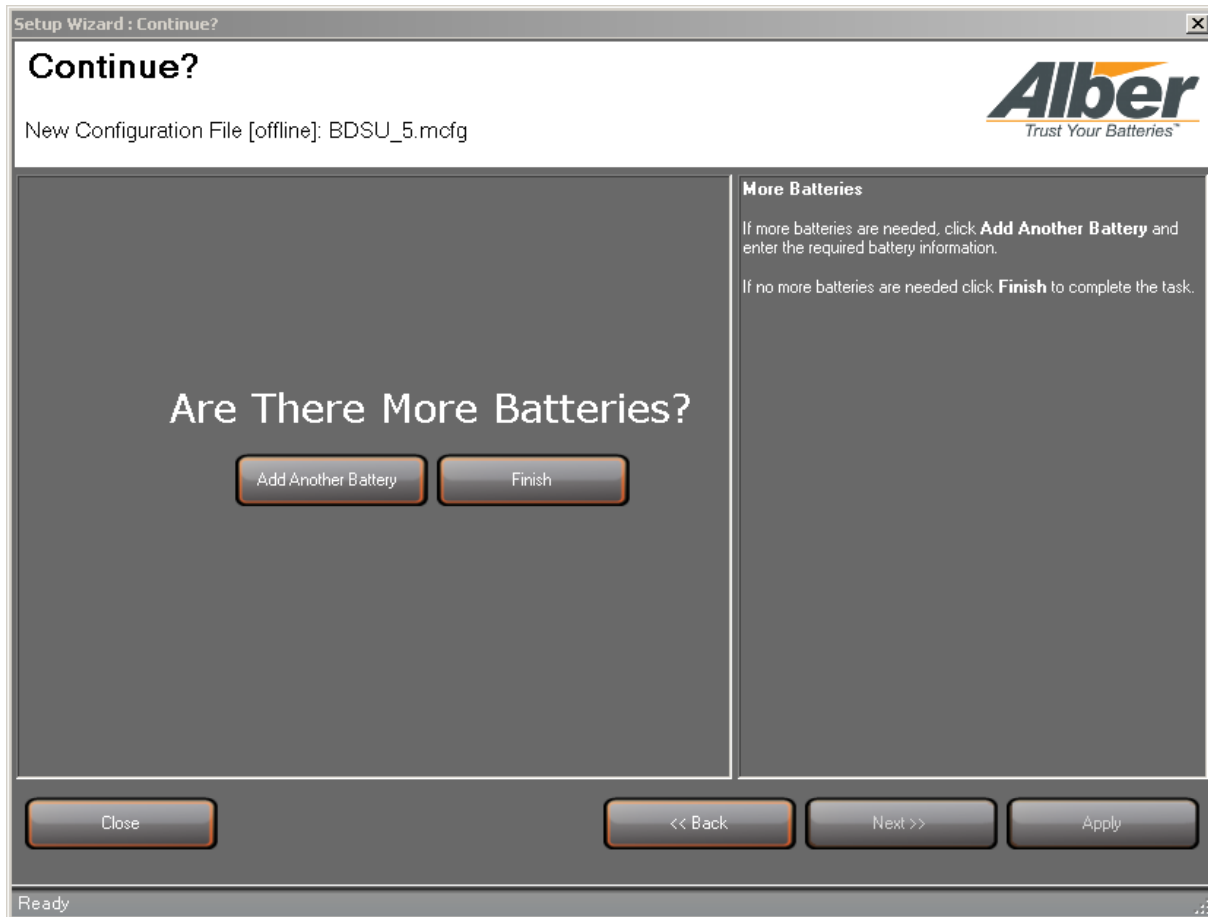


Figure 15 – Adding Batteries to Configuration Files

8. Click **Finish** when complete.

Once complete, connect to your battery monitor system.


5. Connecting to the Battery Monitor System

To connect to the battery monitor, follow these steps. Typically, the USB method is used. Connect the USB cable to a USB port on your computer and then connect the other end to the Battery Diagnostic System Universal (BDSU). If you are connecting through the network.



Figure 16 – Battery Xplorer Main Window

1. From the main menu, click **File** then **Connect To Monitor**.

 **Note:** Only one instance of Battery Xplorer can be running at a time. If more than one instance is running, Battery Xplorer will not connect.

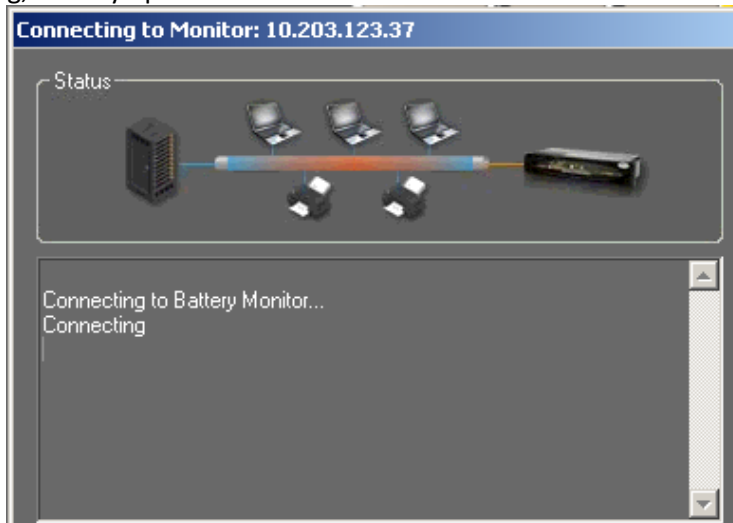


Figure 18 – Connect to Battery Monitor Via Network



Figure 19 – Connect to Battery Monitor Via USB

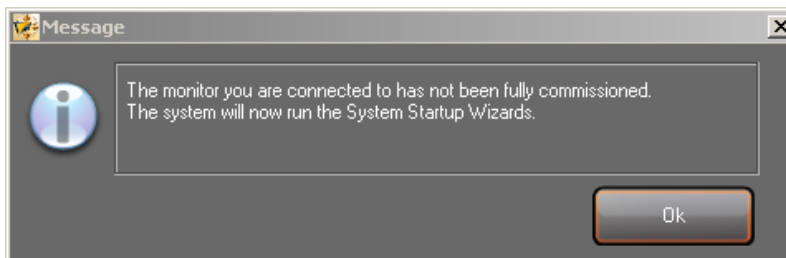


Figure 20 – Message Informing of Monitor not Fully Commissioned

Note: This message may take a moment to appear.

4. Click **OK** and the System Startup window will appear.

6. About Starting Up the Battery Monitor System

The System Startup wizard guides you through the process of commissioning the battery monitoring equipment. The system startup wizard validates the installation, sets up the hardware configuration, verifies the hardware components and sets up other user settings for the battery monitor operation.

The system requires the Installation Validation to be started first, otherwise the system will not allow additional startup wizards to be started. The Hardware Configuration and Hardware Validation startup wizards will remain dimmed until the Installation Validation wizard is complete. After the Installation Validation is complete, you can proceed to the Hardware Configuration wizard. Then, you may proceed to the Hardware Validation system startup wizard.

To startup the battery monitor, follow the steps in the System Startup wizard:

- Validate installation steps for the battery monitoring system.
- Setup and define the battery monitor hardware configuration.
- Verify all hardware components for the battery monitoring system.
- Set up the operational parameters for the battery monitor system.



Figure 21 – System Startup

6.1 Startup Wizard - Validating the Install on the Battery Monitor System

To validate the installation steps for starting up the battery monitoring system, from the System Startup wizard, follow these steps:

1. Click the **Installation Validation** icon.
2. On the **Welcome to Startup Wizard Install Validation** window, click **Next**.

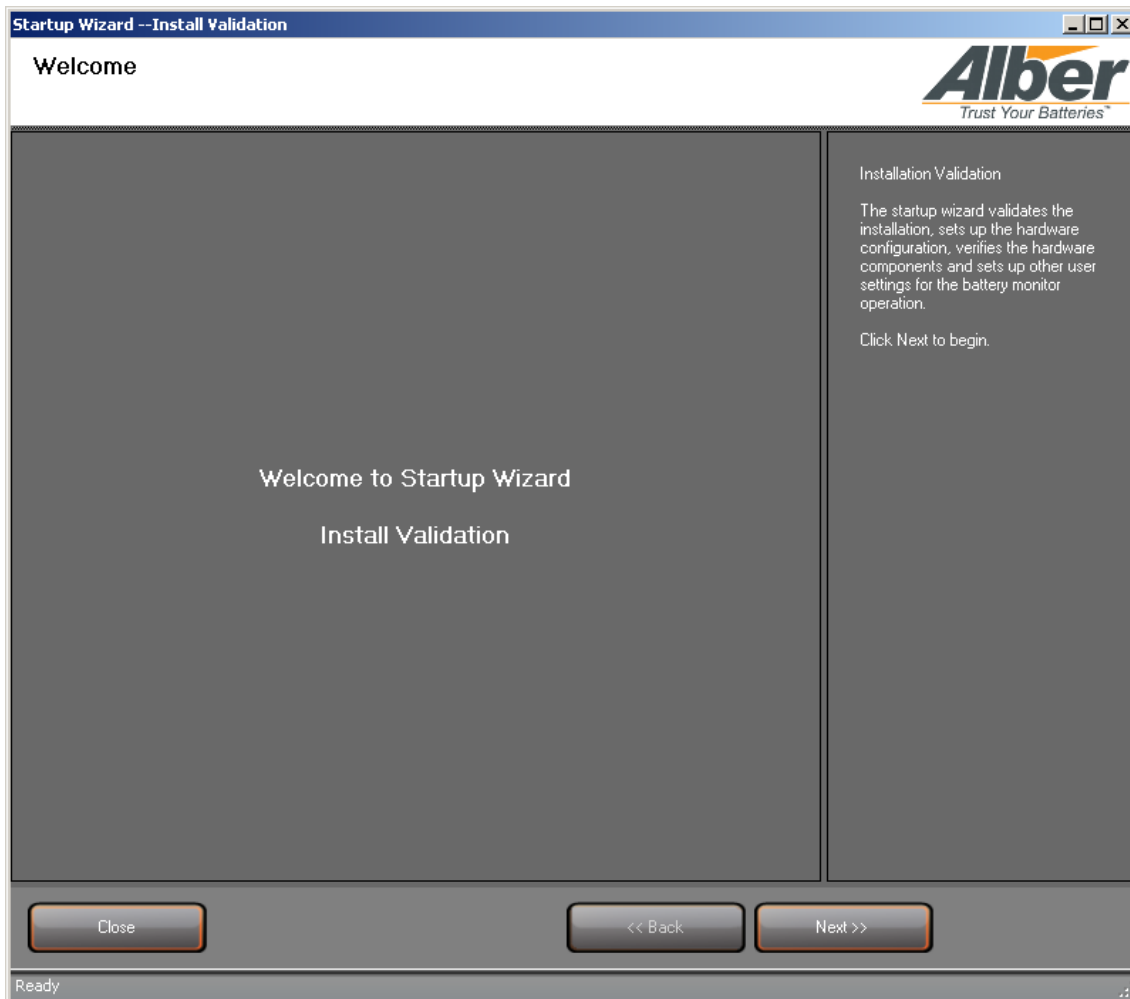


Figure 22 – Welcome to Startup Wizard Installation Validation

3. On the **Install Validation** window, validate and check off, by clicking each item on the list. For specific information on each install validation item, click the **Help** button to the right of each item.



Note: When checking off items on the Install check off list, if the item does not apply for the system being setup, it must be checked as validated in order to proceed to the next window.

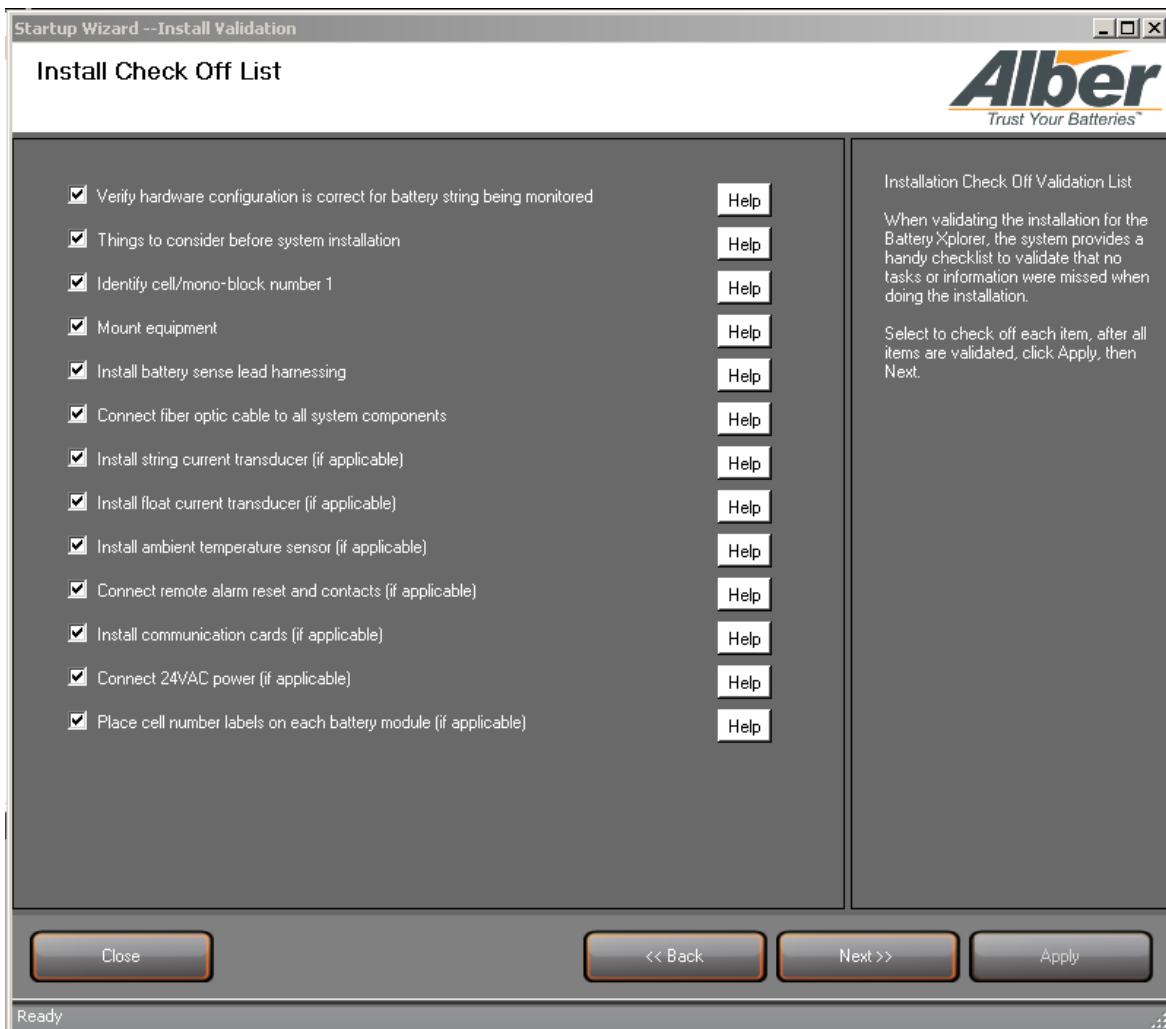


Figure 23 – Installation Validation Check Off List

4. Once all install validation items are verified and checked off, click **Apply**, then **Next**.

5. Validate the customer’s name, location and contact information and make any changes needed.

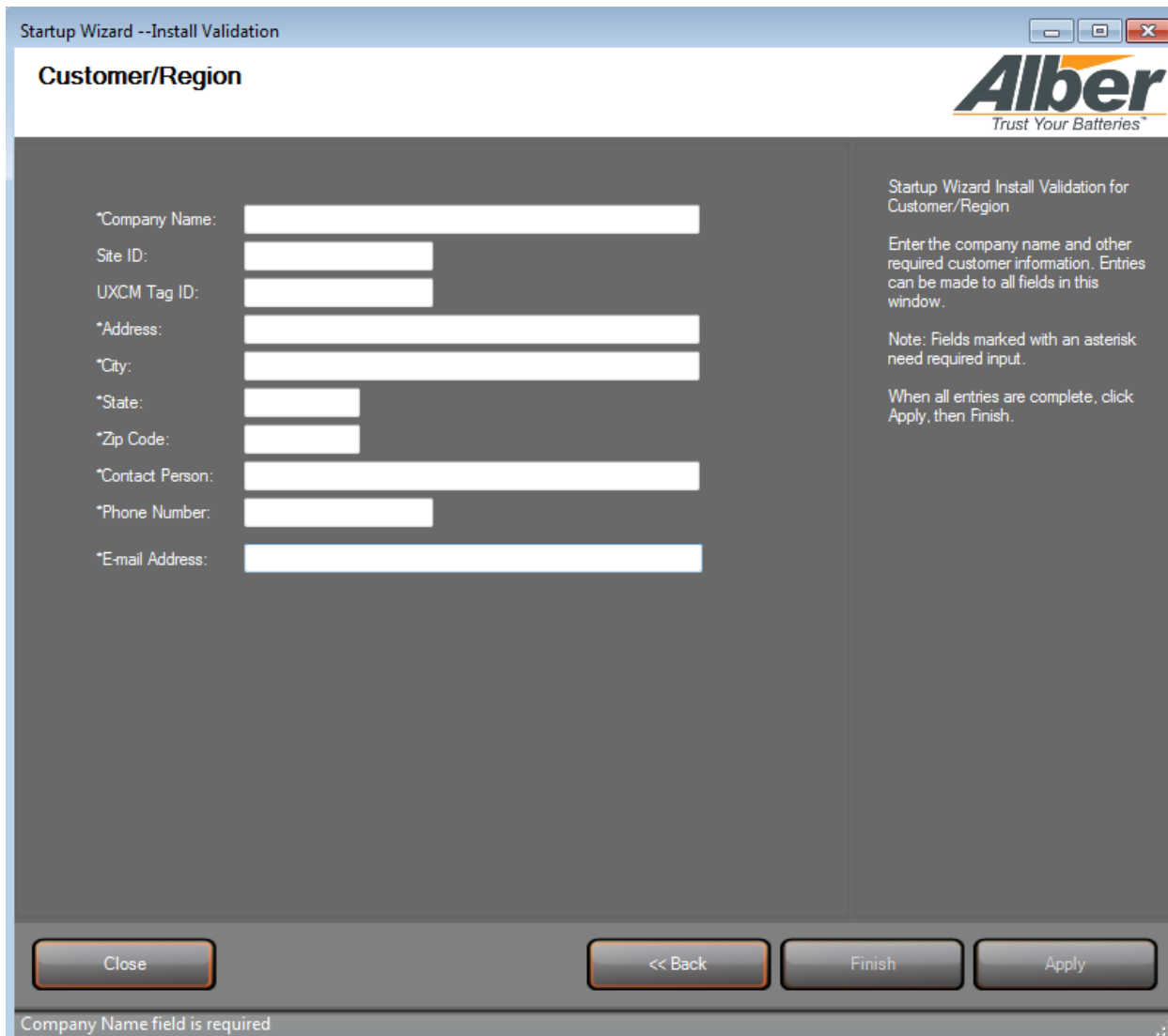


Figure 24 – Adding Customer Region Information

6. Click **Apply** then **Finish**.

6.2 Startup Wizard - Configuring the Hardware on the Battery Monitor System

To set up and define the battery string configuration steps for starting up the battery monitoring system, from the System Startup wizard, follow these steps.

1. Click the **Hardware Configuration** icon.

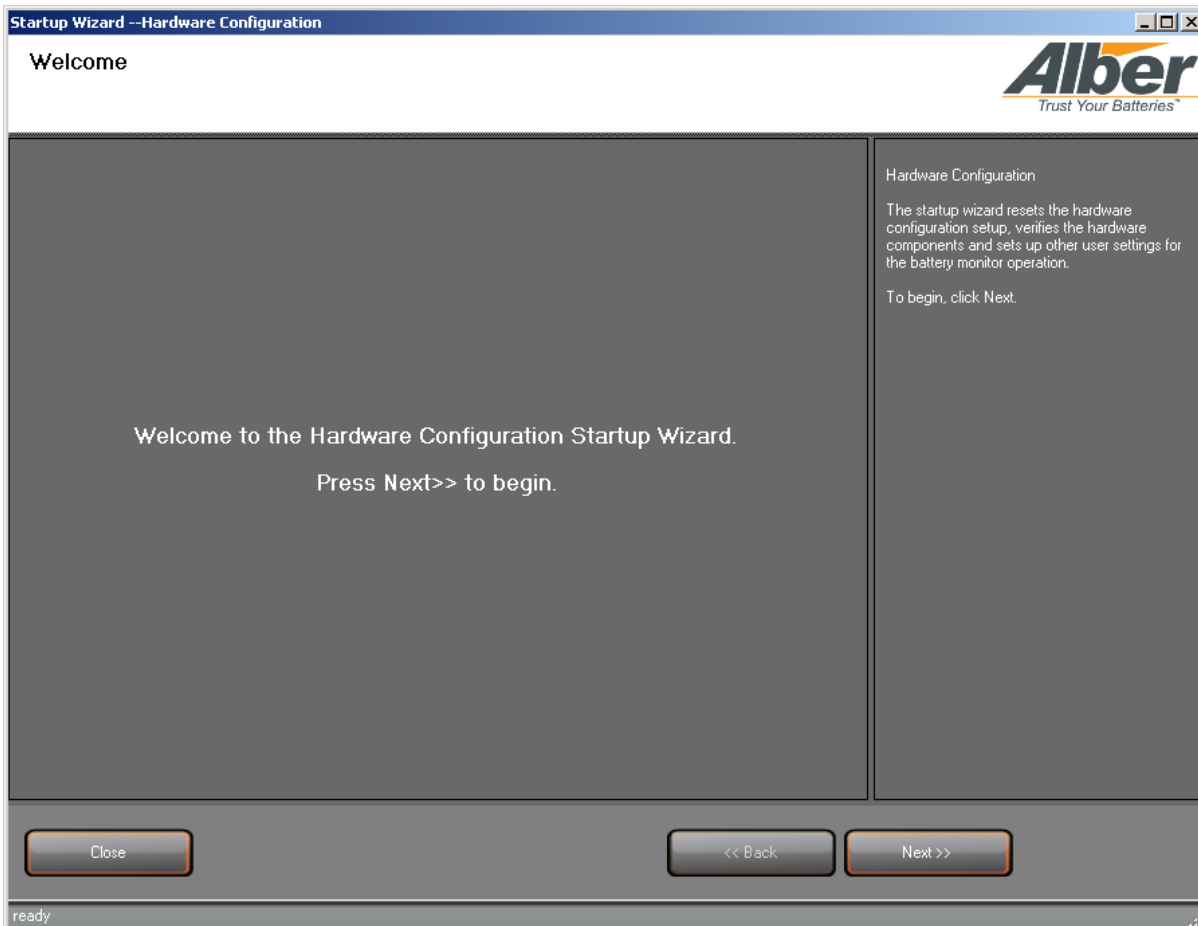


Figure 25 – Installation Validation Check Off List

2. On the **Welcome to the Hardware Configuration Startup Wizard** window, click **Next** to begin.

- On the **Auto Configuration** window, two options are available:
 - Rebuild Network** – used for new installations when starting up a system.
 - Detect Network** – used for adding new hardware on an existing system.

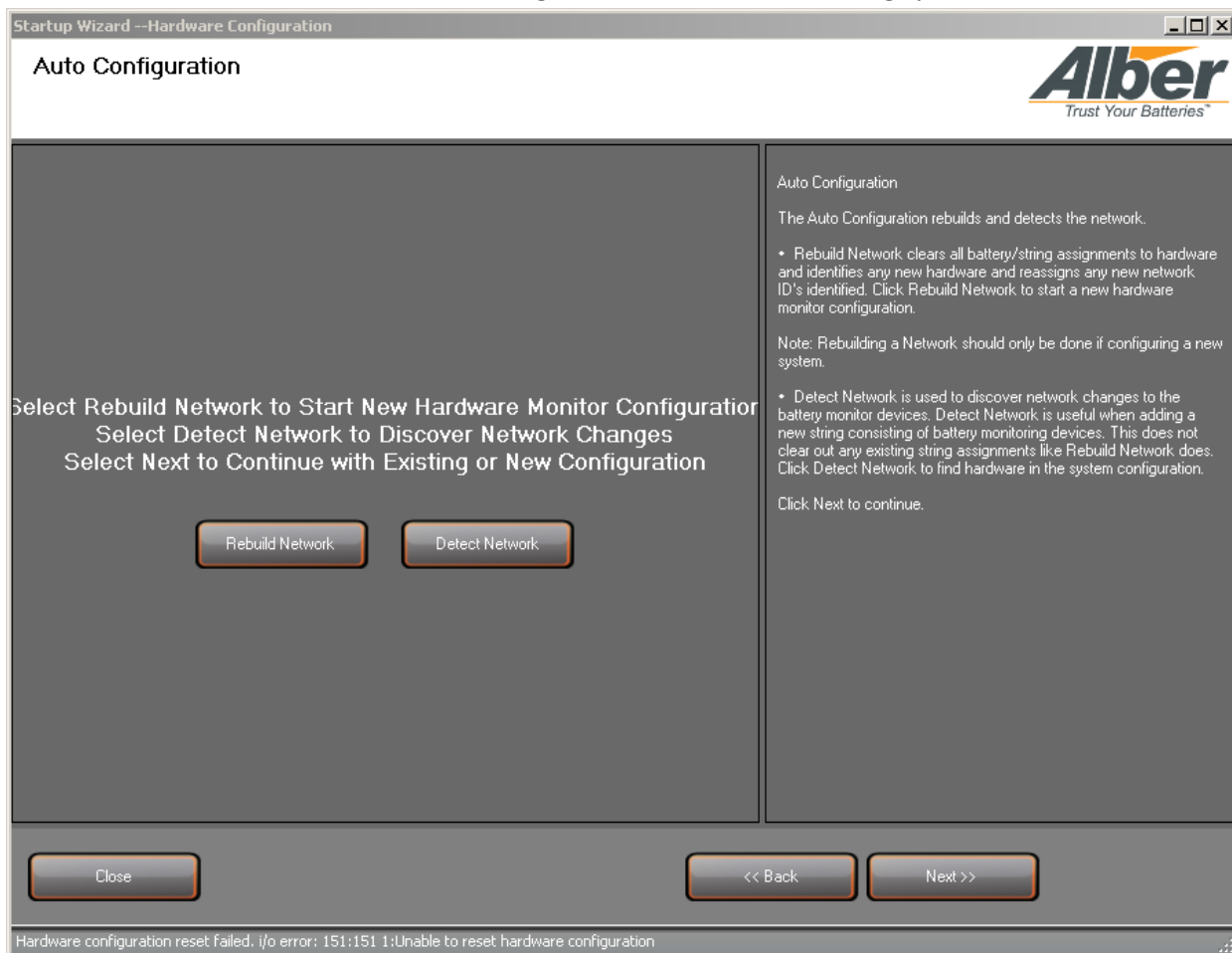


Figure 26 – Auto Configuration

- On a new battery monitor network system, click **Rebuild Network**. The system clears all string assignments, all intertier assignments and rebuilds the entire battery monitor network.

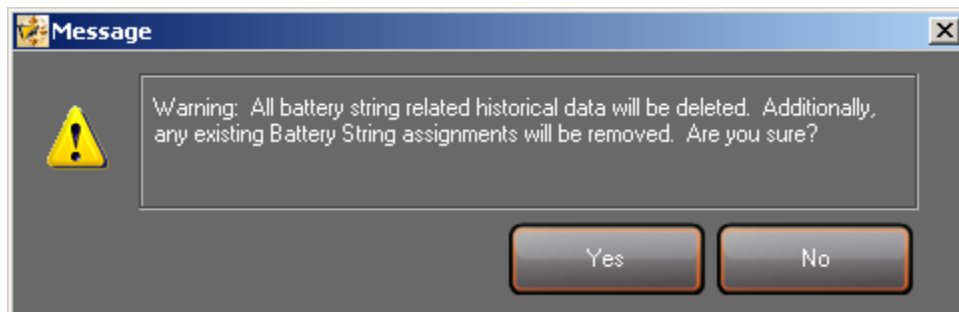


Figure 27 – Rebuild Network Prompt

- Click **Yes** to rebuild the battery monitor network.

6. On an existing battery monitor network system, click **Detect Network**. The system adds any new hardware to the existing battery monitor network system. If only device configurations or intertier changes were made and no hardware was added to the network, click **Next**.
7. Once all the battery monitor hardware is added, the Hardware Configurations window appears.

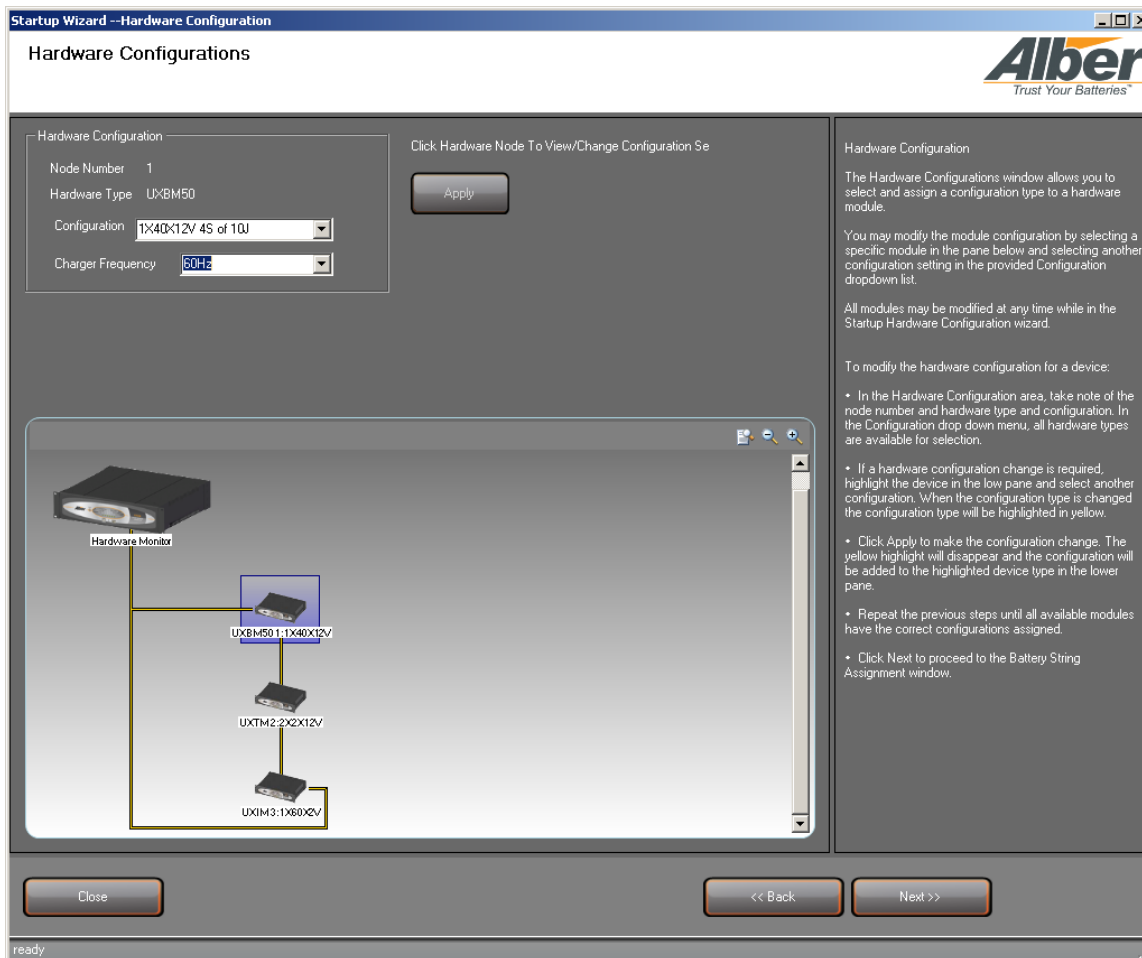


Figure 28 – Hardware Configurations

8. On the **Hardware Configurations** window, select a device from the graphic at the bottom of the window and select a new device configuration or charger frequency from the options on the top of the window. For example, a “1X40X12 with 5S of 8J”, means 1 string, 40 jars and 12volts each jar with 5 shelves of 8 Jars on each shelf.
9. If no changes are required, click **Next**.

- On the **Battery String Assignment** window, select a battery string from the graphic at the bottom of the window and click an available battery string from the list on the top of the window. Click **Assign**, to assign an available battery string.

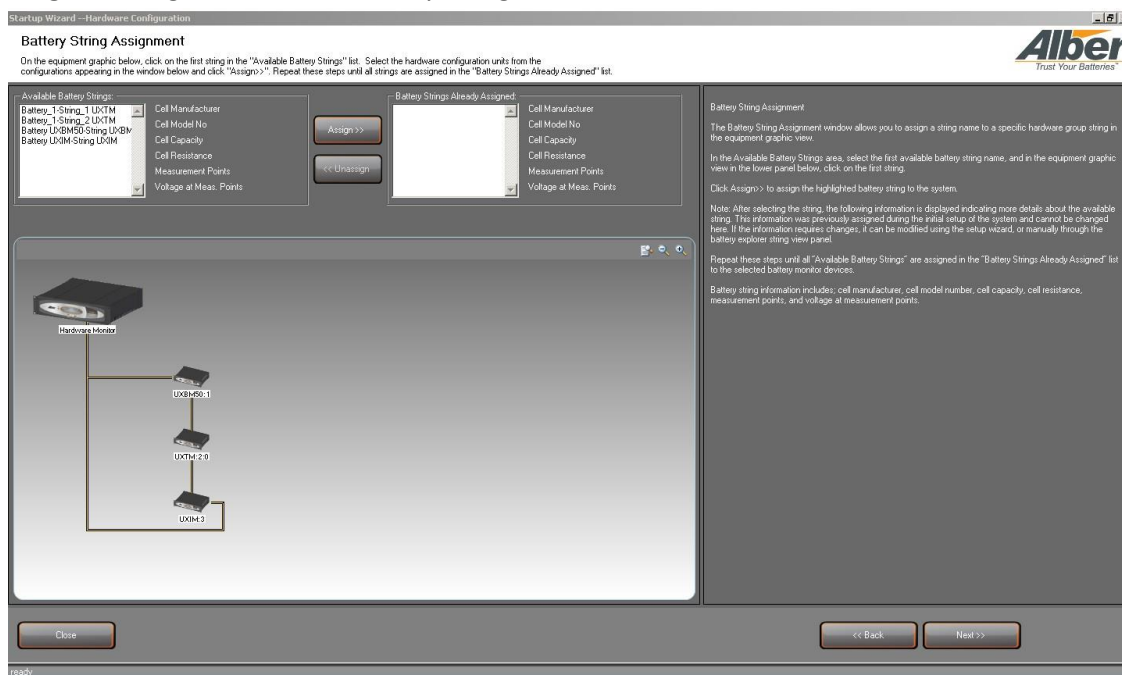


Figure 29 – Battery String Assignment

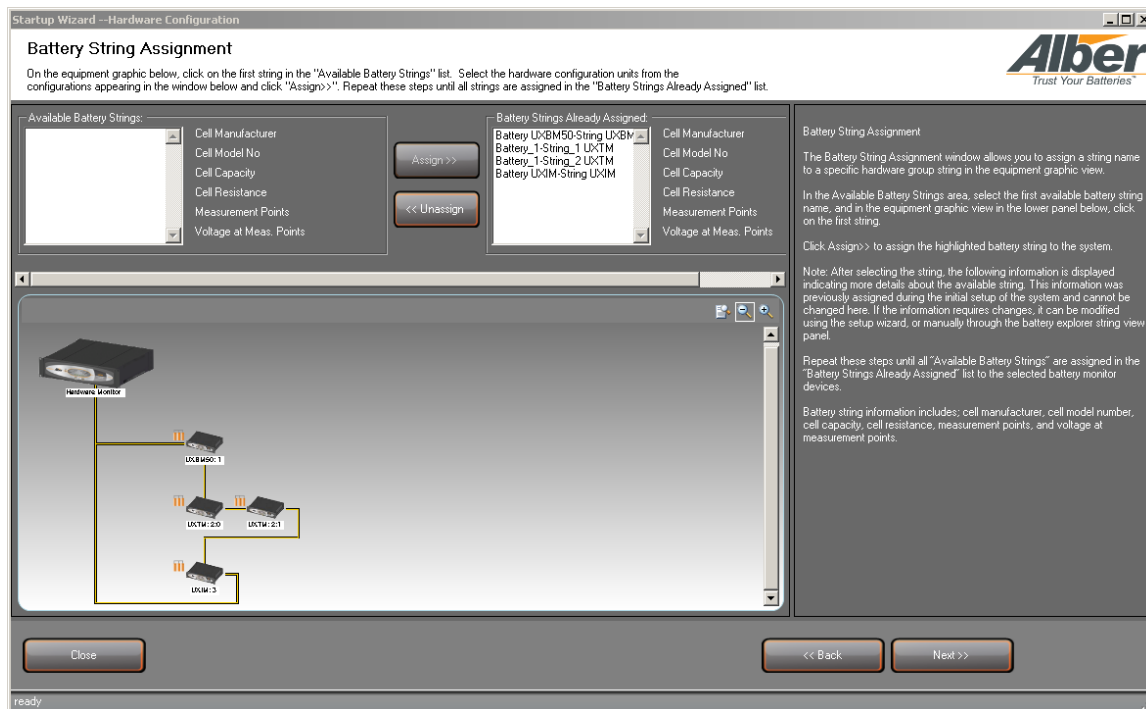


Figure 30 – Battery String Already Assigned

- When all assignments are complete, click **Next**.

To set up and define the battery intertier configuration steps for starting up the battery monitoring system, from the System Startup wizard, follow these steps.

1. On the **Battery Intertier Assignment** window for an open rack application, click on the checkbox where each battery intertier assignment is located within the desired cell in the string.



Note: During auto configuration, the system detects if it is an open rack or cabinet application. Intertiers can only be managed in open rack configurations. Cabinet applications are not applicable for user intertier assignments.

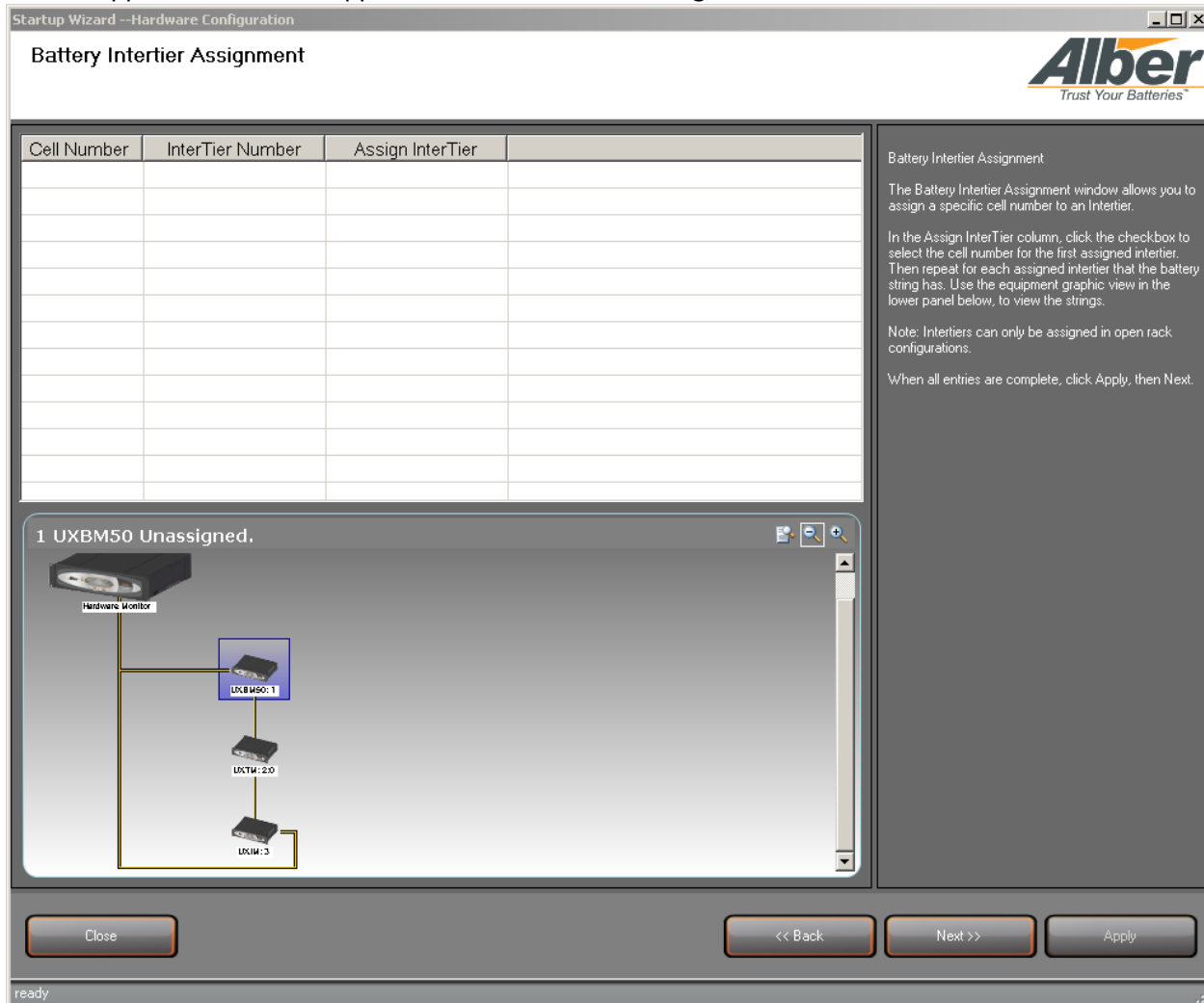


Figure 31 – Battery String Intertier Assignment

2. For open rack applications, click the checkbox to assign Intertiers to all the desired cells, click **Apply** then **Next**. For cabinet applications, assignment of intertiers does not apply, click **Next**.

- 3. View the Summary Report by clicking the **View Report** button.

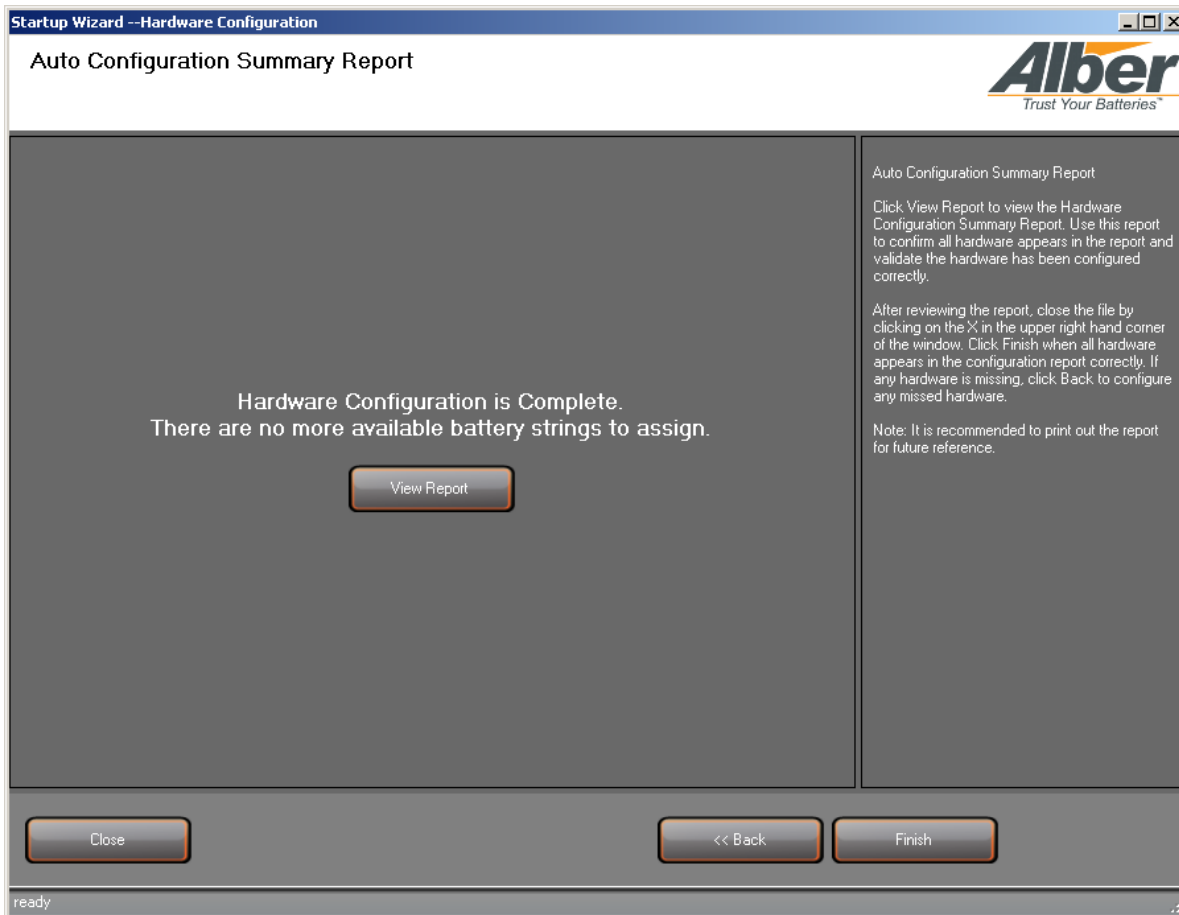


Figure 32 – Auto Configuration Summary Report

7. Validating the strings on the Battery Monitor System

To set up and define the string validation agent configuration steps for starting up the battery monitoring system, from the System Startup wizard, follow these steps.

1. Click the **Hardware Validation** icon.
2. On the **Welcome to String Validation Wizard** window, click **Next** to begin.

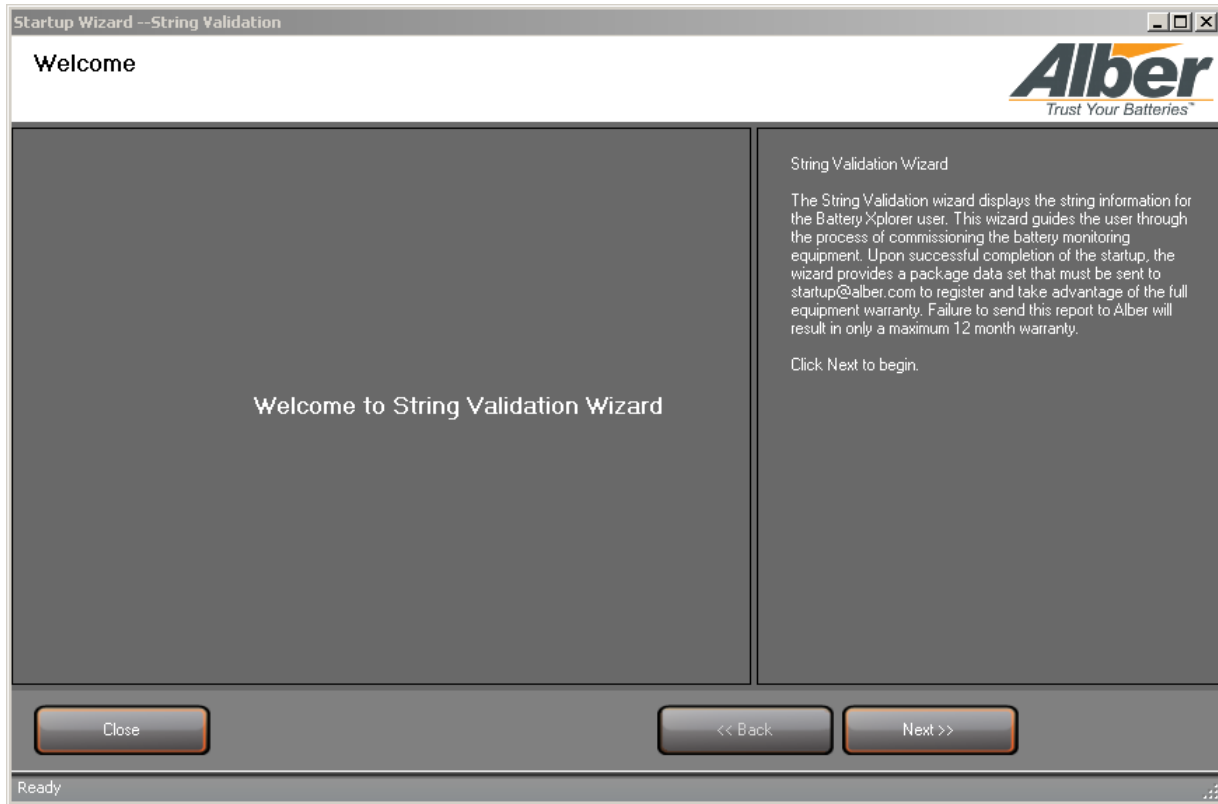


Figure 34 – Hardware Configuration Summary Report

4. On the **String Validation Agent Information** window, enter the agent information.

Startup Wizard --String Validation

String Validation Agent Information

Selected Battery 'Battery UXBM50 (2)' String 'String UXBM50 (513)'

Alber
Trust Your Batteries

Agent Information

*Agent Name:

*Company Name:

*Address:

*City:

*State:

*Zip Code:

*Phone Number:

*E-mail Address:

*Ref/PO/Ticket #:

String Validation Agent Information

Enter the agent name and other agent information. Entries can be made to all fields in this window.

This wizard guides the user through the process of commissioning the battery monitoring equipment. Upon successful completion of the startup, the wizard provides a package data set that must be sent to startup@alber.com to register and take advantage of the full equipment warranty. Failure to send this report to Alber will result in only a maximum 12 month warranty.

When all entries are complete, click Apply, then Next.

Close << Back Next >> Apply

Provide an agent name

Figure 36 – Select Battery String to Validate

5. Click **Apply**, then **Next**.

6. Review all the devices on the **System Parameter Validation** window.

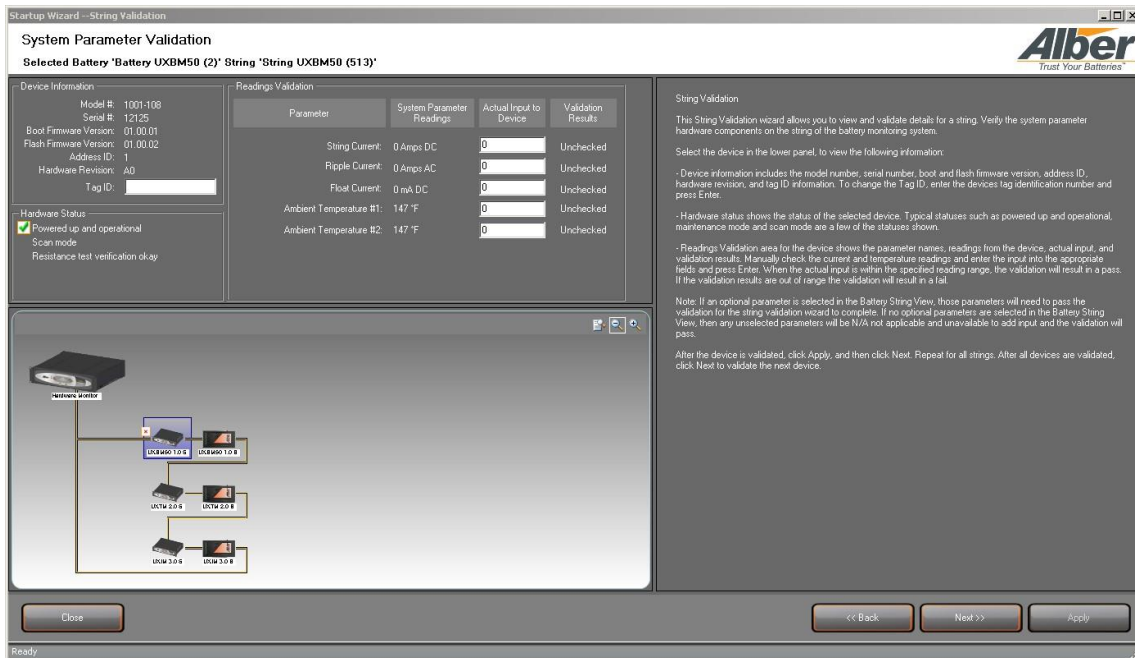


Figure 37 – System Parameter Validation for the Battery String

Note: If an optional parameter is selected in the Battery String View, those parameters will need to pass the validation for the string validation wizard to complete. If no optional parameters are selected in the Battery String View, then any unselected parameters will be N/A not applicable and unavailable to add input and the validation will pass.

7. Manually check the current and temperature readings and enter the input into the appropriate fields and press **Enter**. When the actual input is within the specified reading range, the validation will result in a pass. If the validation results are out of range the validation will result in a fail.

Note: Only one temperature measurement needs to be verified.

8. After the validation is complete, click **Apply**, then **Next**.

Validating the strings on the Battery Monitor System

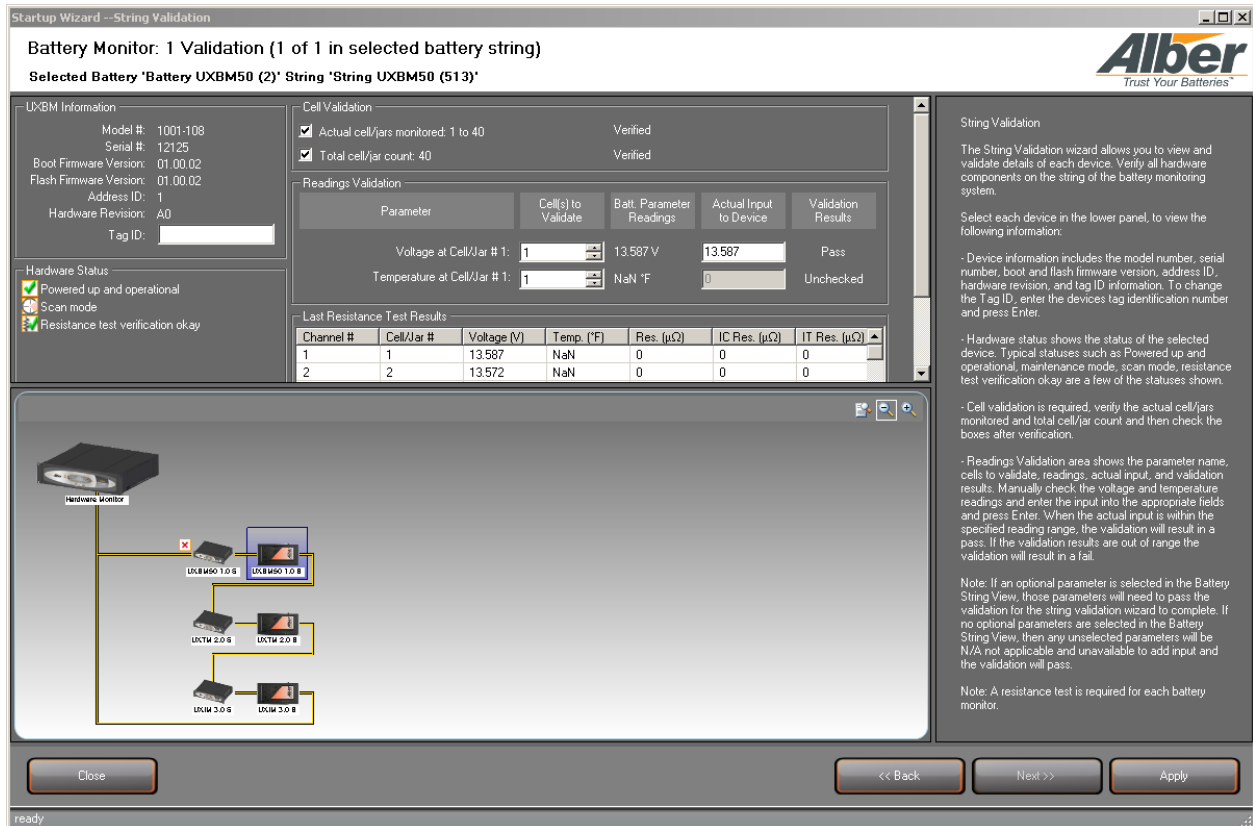


Figure 38 – Validated Battery Monitor Devices on a String

To validate the Cell readings on a device for starting up the battery monitoring system, follow these steps.

1. In the battery storage compartment, physically count the jars to validate the actual amount of jars match what the system shows are connected in the string.
2. Use a cell voltage meter to validate the current actual voltage and temperature readings of each jar. Note the readings in the Battery Xplorer application. Note the voltage and temperature readings for the Batteries.
3. In the Cell Validation area, confirm that the correct cells are being viewed by checking the following two check boxes.
 - Actual cell/jars monitored x to x - select to confirm the cell validation. The cell numbers will increase when clicking Next through the battery string.
 - Total cell/jar count: x - select to confirm the cell validation.

Note: A resistance test is required to successfully validate.

4. Parameter readings can be verified from the following:
 - Voltage a Cell/Jar #x - enter the cell number and confirm the cell voltage reading and enter the reading from the cellcorder meter. The validation result must pass.
 - Temperature at Cell/Jar #x - enter the cell number and confirm the cell temperature reading and enter the reading from the cellcorder meter. The validation result must pass.

Validating the strings on the Battery Monitor System

- To execute a resistance test, right click the device graphic image and select **Start Resistance Test**.

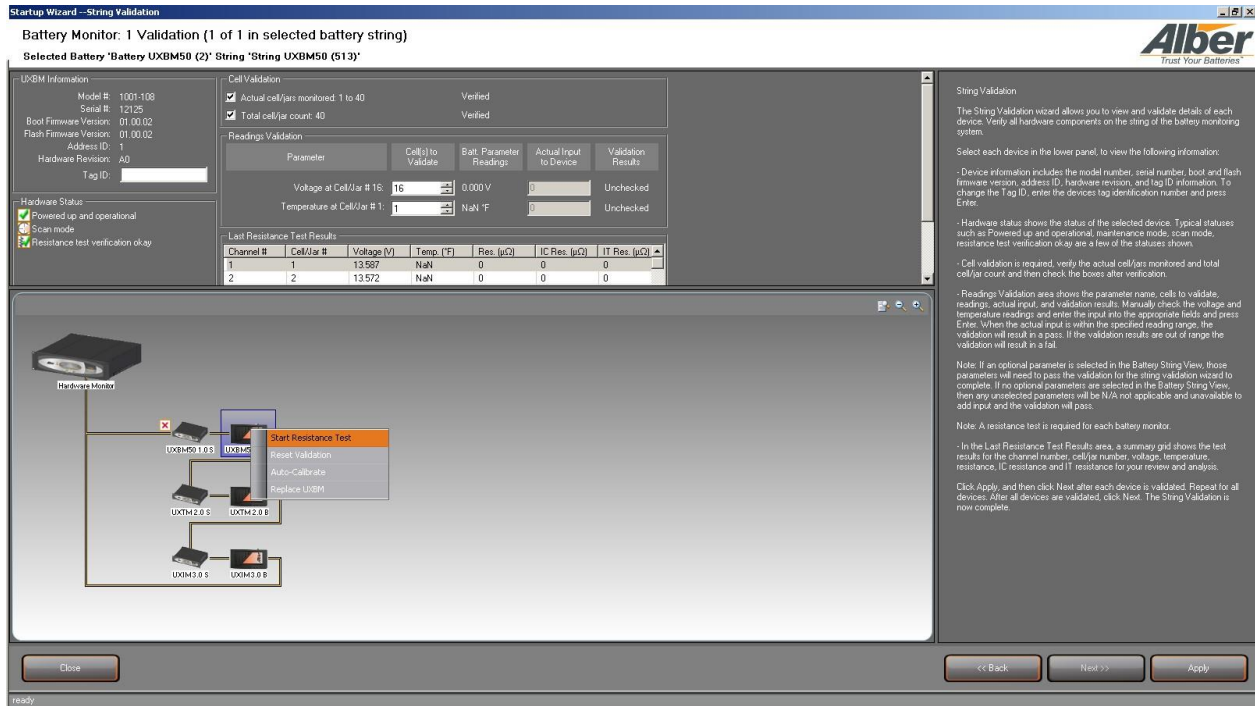


Figure 39 – Starting a Resistance Test



Note: Please be patient as the resistance test may take a few minutes to run. During a resistance test all the LEDs on the unit will blink green.

- After each battery monitor device is tested and all devices have a checkmark, click **Next**.



Note: If the device does not have a validated checkmark, make sure the Ripple Current optional parameter is not checked in the **Battery String View** window.

- After all devices are validated, click **Next**, to validate the next battery string, until no more strings need validation.
- You may now send or view the commissioning report. To send the commissioning report to Vertiv, click **Send Report**. To view the commissioning report, click **View Report**.

Validating the strings on the Battery Monitor System

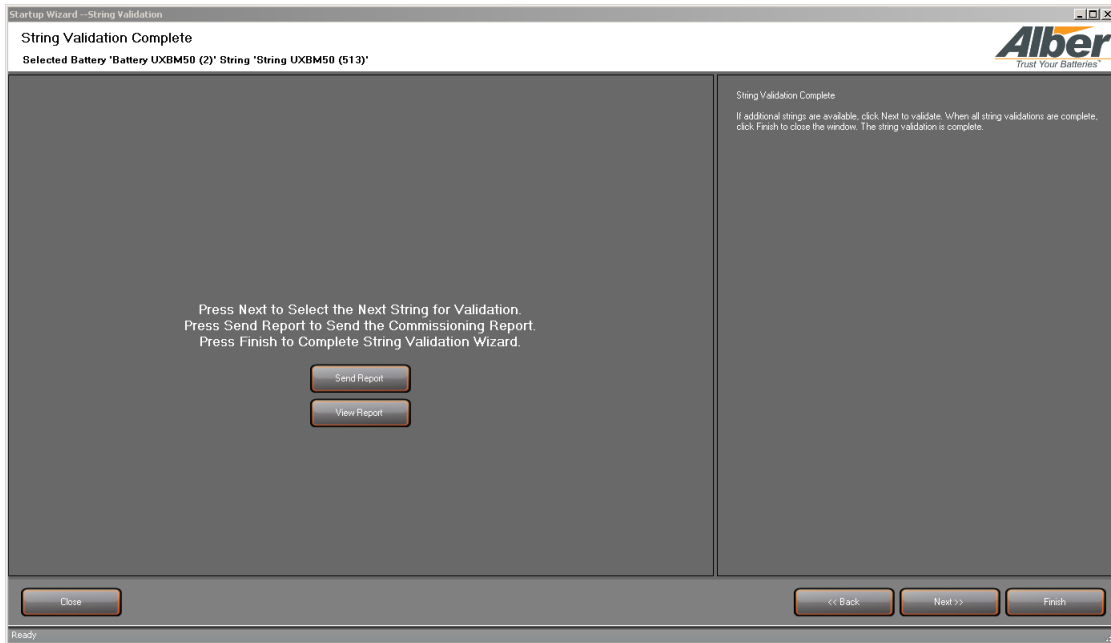


Figure 40 – Validated Battery String Complete

9. To send the commissioning report to Vertiv, click **Send Report**. The Select battery strings window appears.

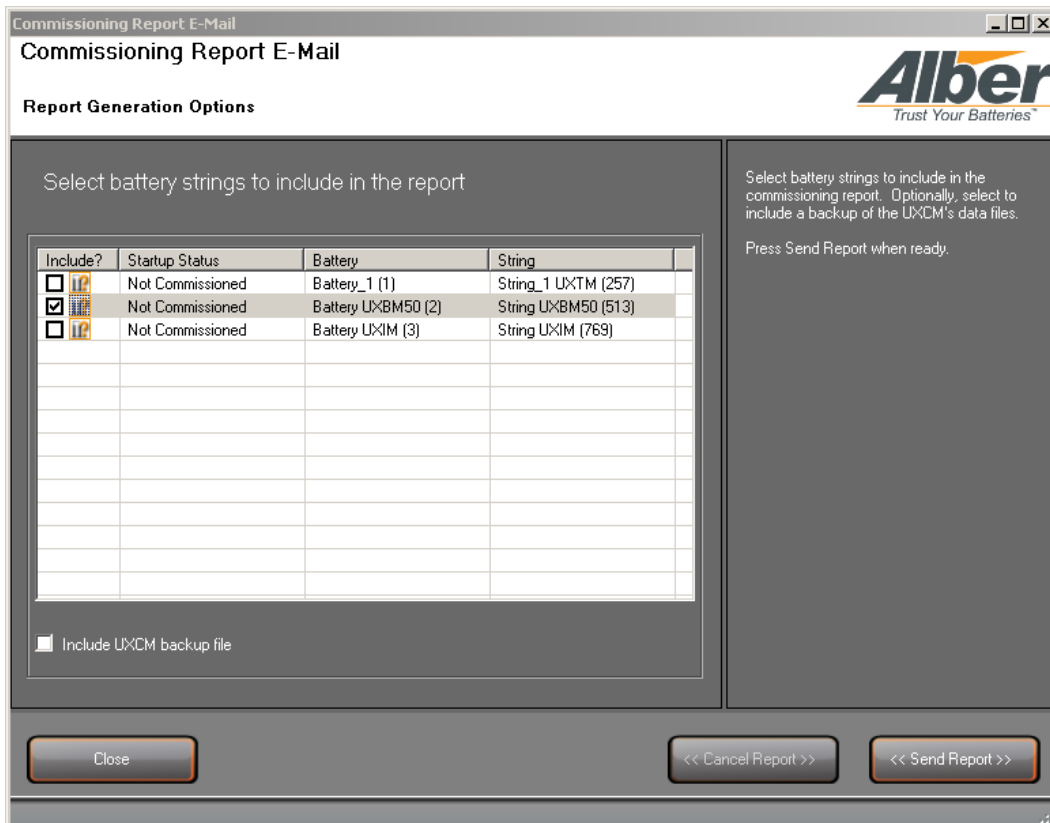


Figure 41 – Commissioning Report E-Mail

10. Click the check box to include the battery strings and click **Send Report**.

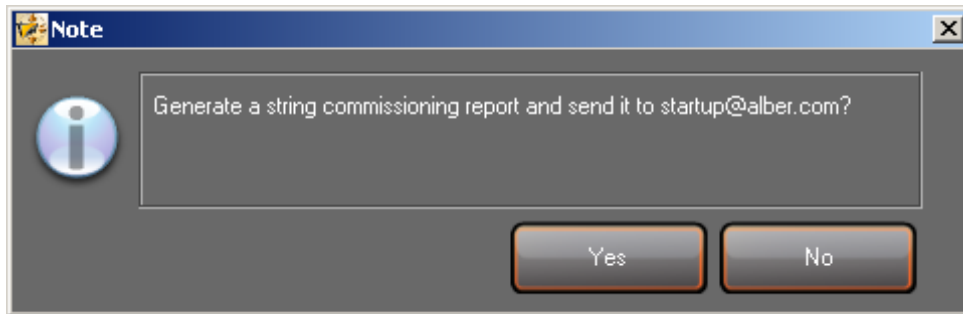


Figure 42 – Send Commissioning Report Prompt

11. Click **Yes** to send the report to startup@vertivco.com. Click **No** to cancel.
12. To view the commissioning report, click **View Report**.
13. Click the check box to include the battery strings.

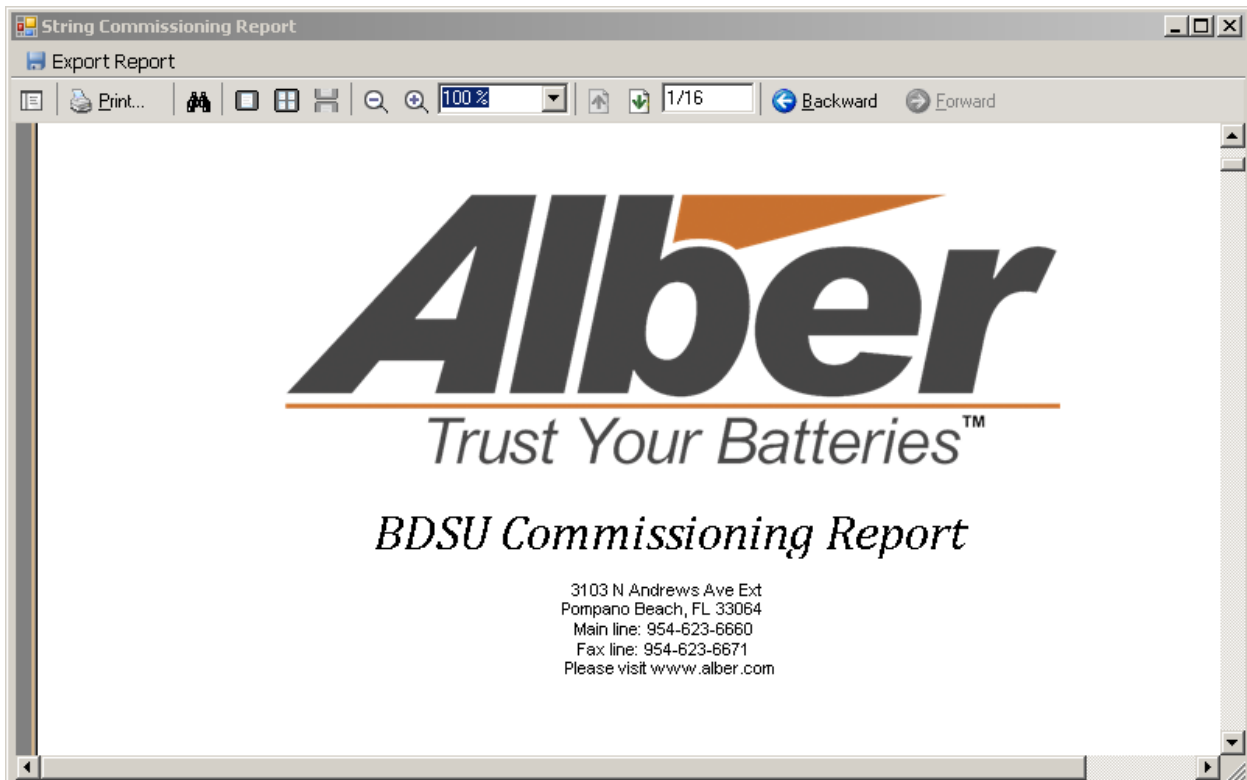


Figure 43 – View Commissioning Report

14. When done with the reports click **Close** and then **Finish**.

Note: After commissioning the battery network system, it is recommended to backup the database.

8. Operational Parameters for Logging and Test Scheduling

To set up and define the Operational Parameters for starting up the battery monitoring system, from the startup window, click on the Operational Parameters icon, the operational parameters setup window appears to select Logging and Test Scheduling. Logging data for a battery string can be specified for a specific day of the month and time or at regular time intervals, the day logging or testing is to occur. The application also gives the option to select how often the logging or testing can occur during a set time, which can be between 1 to 28 intervals each day specified at a specific time.

1. Click the **Operational Parameters** icon.



Figure 44 – Operational Parameters Setup Options

2. On the **Operational Parameters Setup** window, click **Logging and Test Scheduling**.

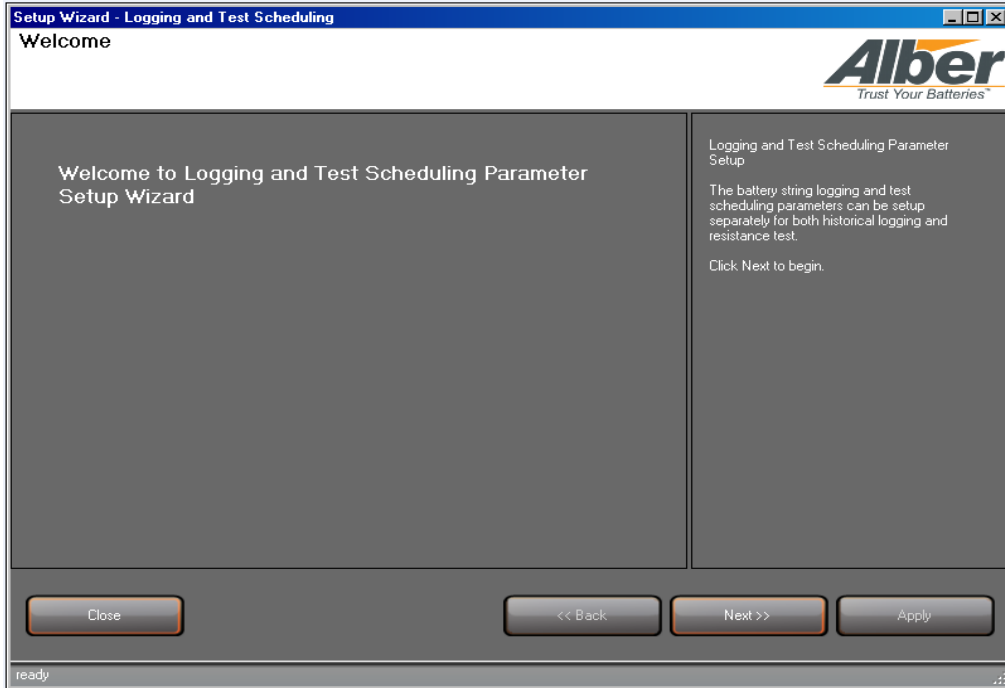


Figure 45 – Logging and Test Scheduling

3. On the **Setup Wizard – Logging and Test Scheduling Welcome** window, click **Next**.
4. On the **Setup Wizard – Logging and Test Scheduling Battery Selection** window, select a battery and click **Next**.

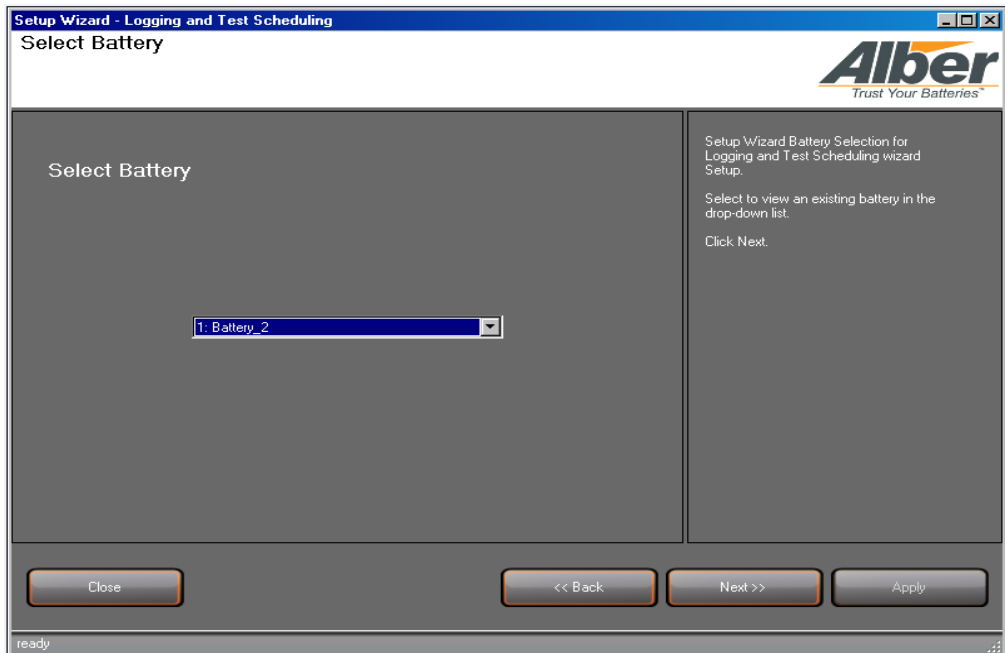


Figure 46 – Logging and Test Scheduling Battery Selection



Note: The battery must have strings assigned.

5. On the **Historical Log Scheduling Configuration** window, select a logging mode, daily interval and log time, click **Apply** then **Next**.

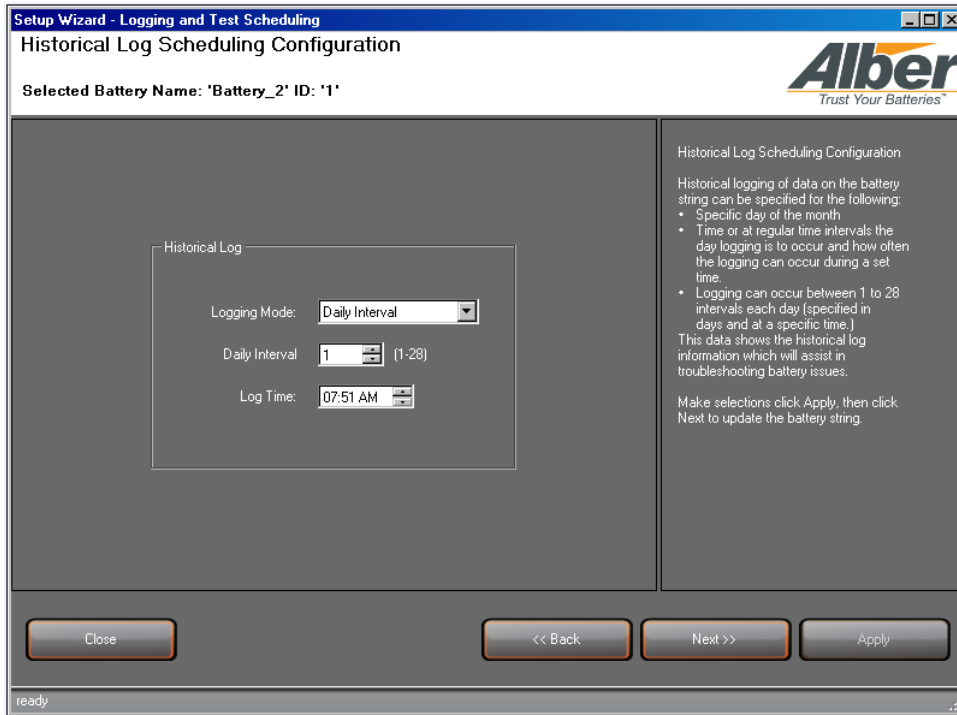


Figure 47 – Historical Log Scheduling Configuration

6. On the **Resistance Test Scheduling Configuration** window, select a scheduling mode, daily interval and log time, click **Apply** then **Next**.

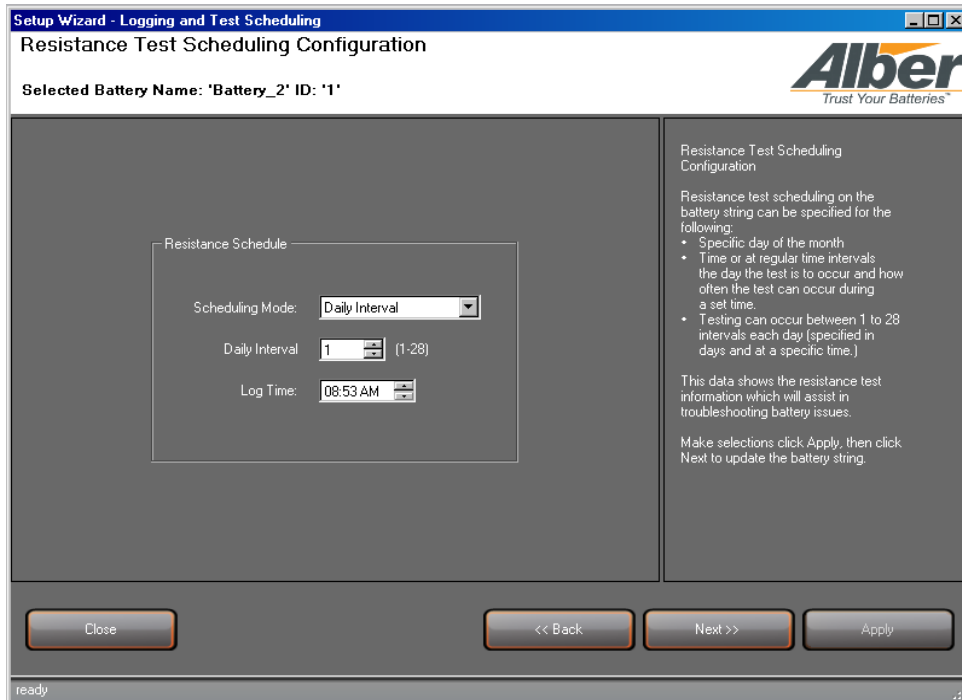


Figure 48 – Resistance Test Scheduling Configuration

7. On the **Finish** window, if additional batteries are available, click continue to select a new battery or click **Finish** or **Close** to complete.

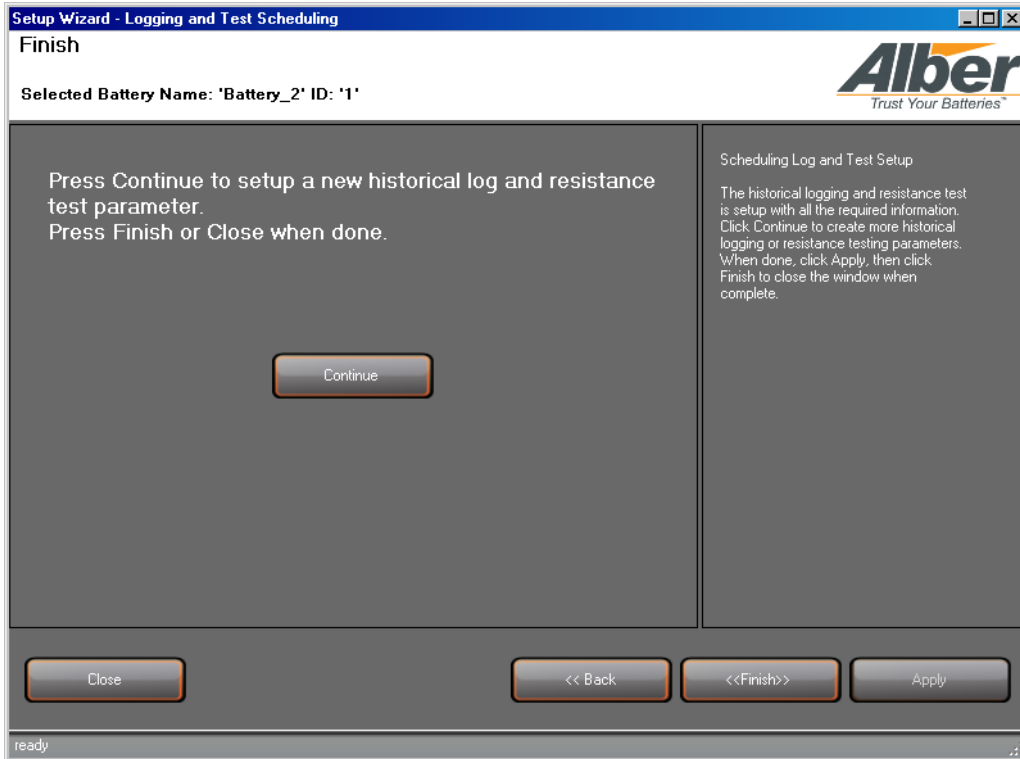


Figure 49 – Logging and Test Scheduling Complete

9. Operational Parameters for Float Alarms Option

To set up and define the Operational Parameters for starting up the battery monitoring system, from the startup window, click on the Operational Parameters icon, the operational parameters setup window appears to select Float Alarms. The battery string float alarms will alert you if the application detects high or low levels in temperature, overall voltage, string current, float current, and ripple current. If any of these thresholds are out of range, alarms are displayed. The application bases the alerts on the percentage and absolute baseline off set values.

1. Click the **Operational Parameters** icon.
2. On the **Operational Parameters Setup** window, click **Float Alarms**.

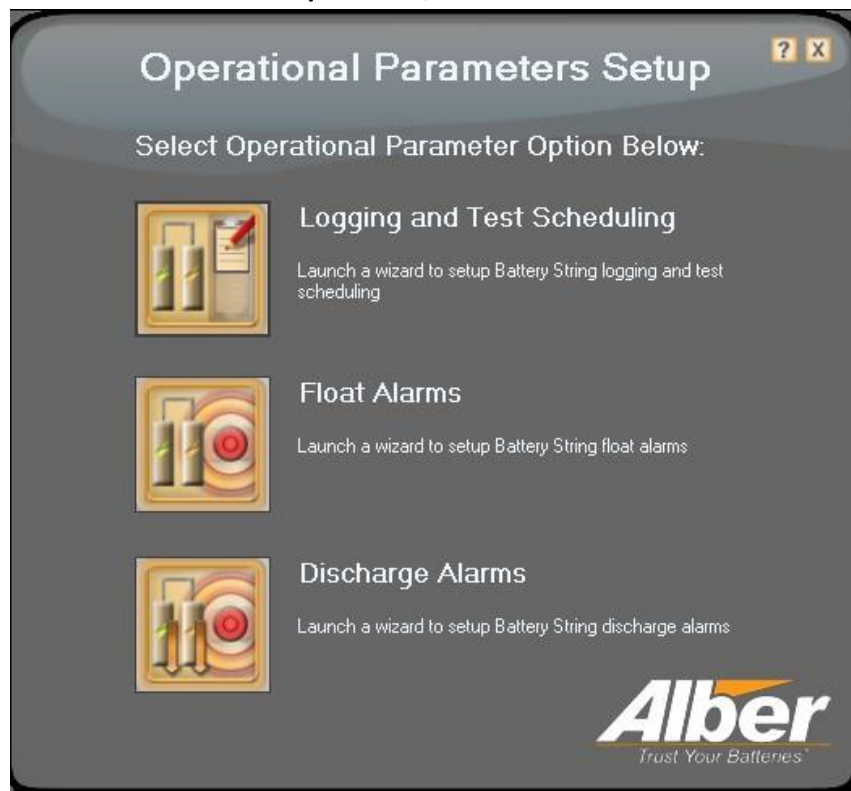


Figure 50 – Operational Parameters Setup Options

3. On the **Welcome to Float Alarms Parameters Setup Wizard** window, click **Next** to begin.

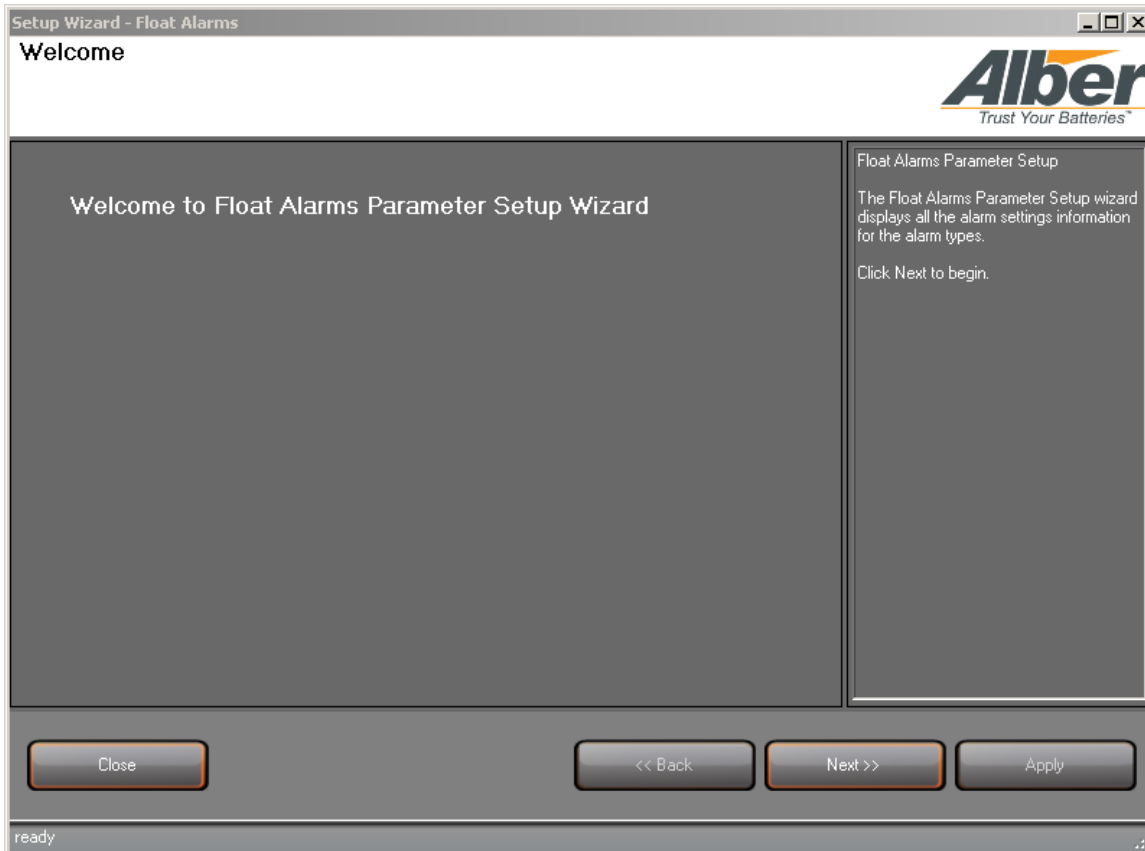


Figure 51 – Welcome to Float Alarms Parameters Setup Wizard

4. On the battery selection window, select the battery and click **Next**.



Note: The battery must have strings previously assigned.

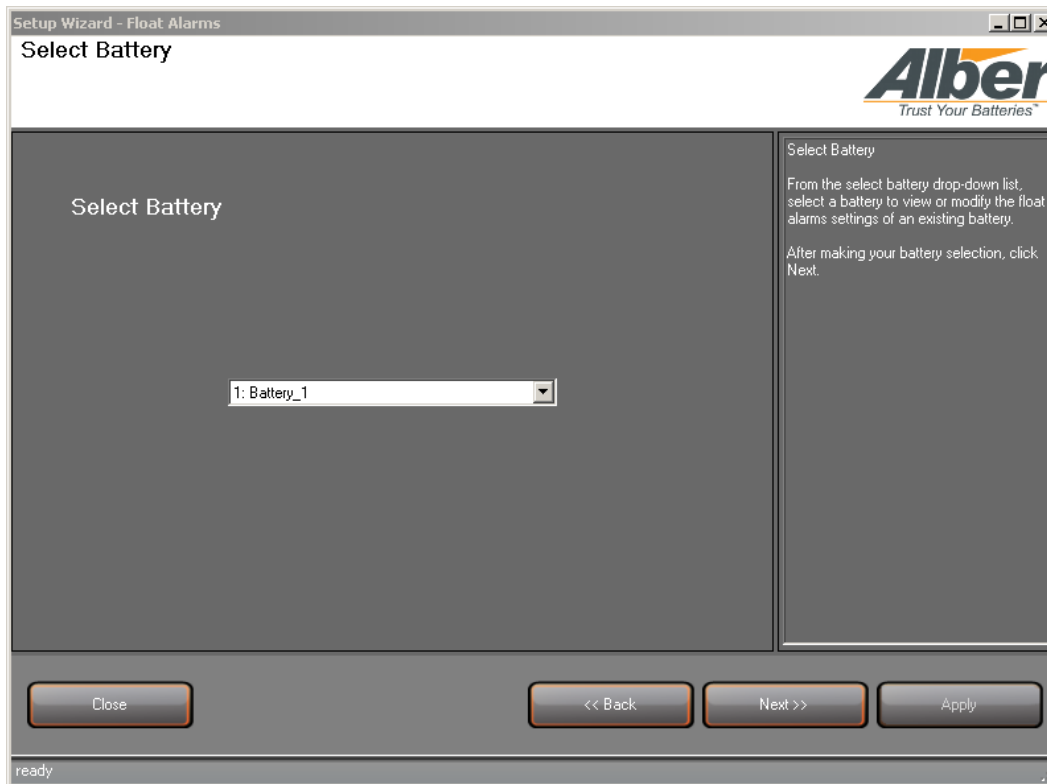


Figure 52 – Select Battery for Float Alarms

5. On the **Alarm Settings** window, select alarm type and alarm settings and click **Apply**.

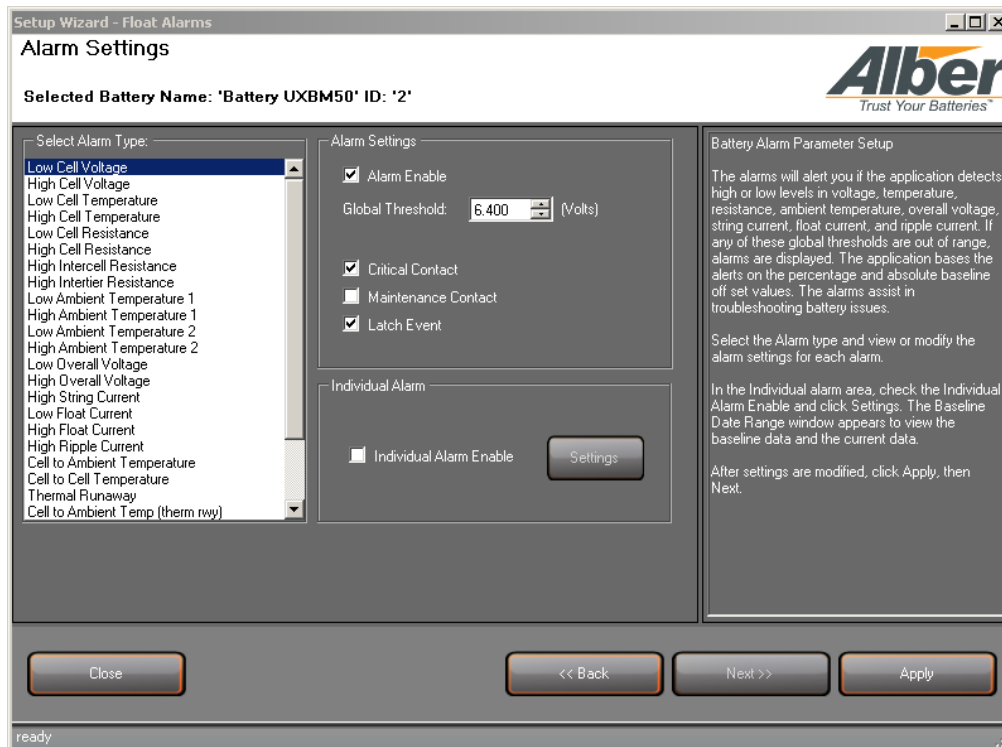


Figure 53 – Select Battery for Float Alarms

- In the Individual Alarm area, click **Individual Alarm Enable** then **Settings**.

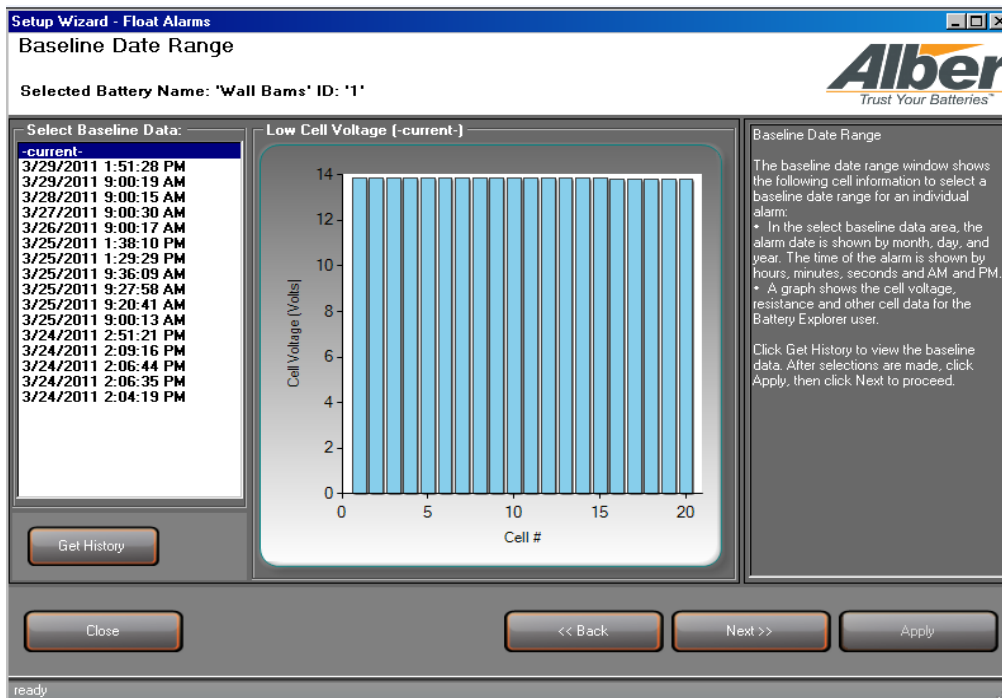


Figure 54 – Select Baseline Date Range

- On the **Baseline Date Range** window, the system shows the cell information graphic. Click **Get History** to view historical baseline data. Click **Apply** then **Next**.

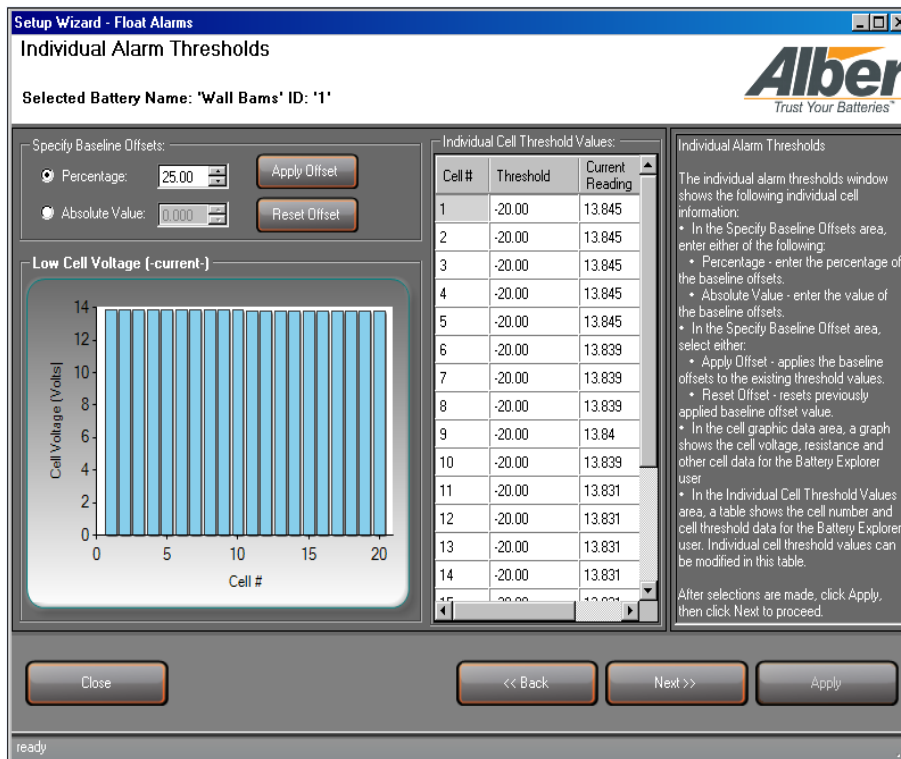


Figure 55 – Individual Alarm Thresholds

- On the Individual Alarm Thresholds window, select either percentage or absolute value.
- View the individual cell threshold values (cell numbers, thresholds and current readings) and click **Apply** then **Next**.

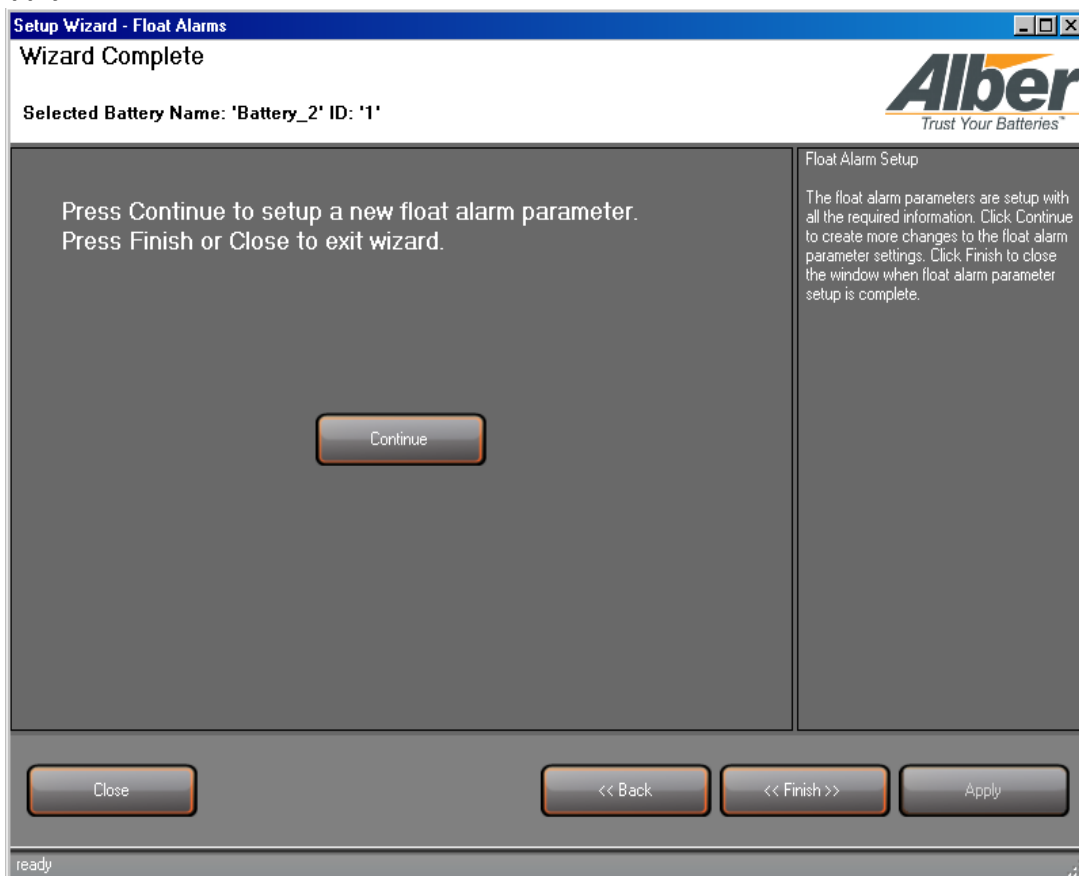


Figure 56 – Completed Float Alarms Setup

- When the Float Alarms setup is complete, click **Finish**.

10. Operational Parameters for Discharge Alarms Option

To set up and define the Operational Parameters for starting up the battery monitoring system, from the startup window, click on the Operational Parameters icon, the operational parameters setup window appears to select Discharge Alarms. The battery string discharge alarm will alert the user if the application detects high or low overall voltage levels in VDC, and battery string current voltage levels in Amps DC. The application bases the alerts on the deviation storage thresholds. The alarms will assist in troubleshooting battery issues. The discharge alarm can be enabled or disabled at any time.

1. Click the **Operational Parameters** icon.



Figure 57 – Operational Parameters Setup Options

2. On the **Operational Parameters Setup** window, click **Discharge Alarms**.

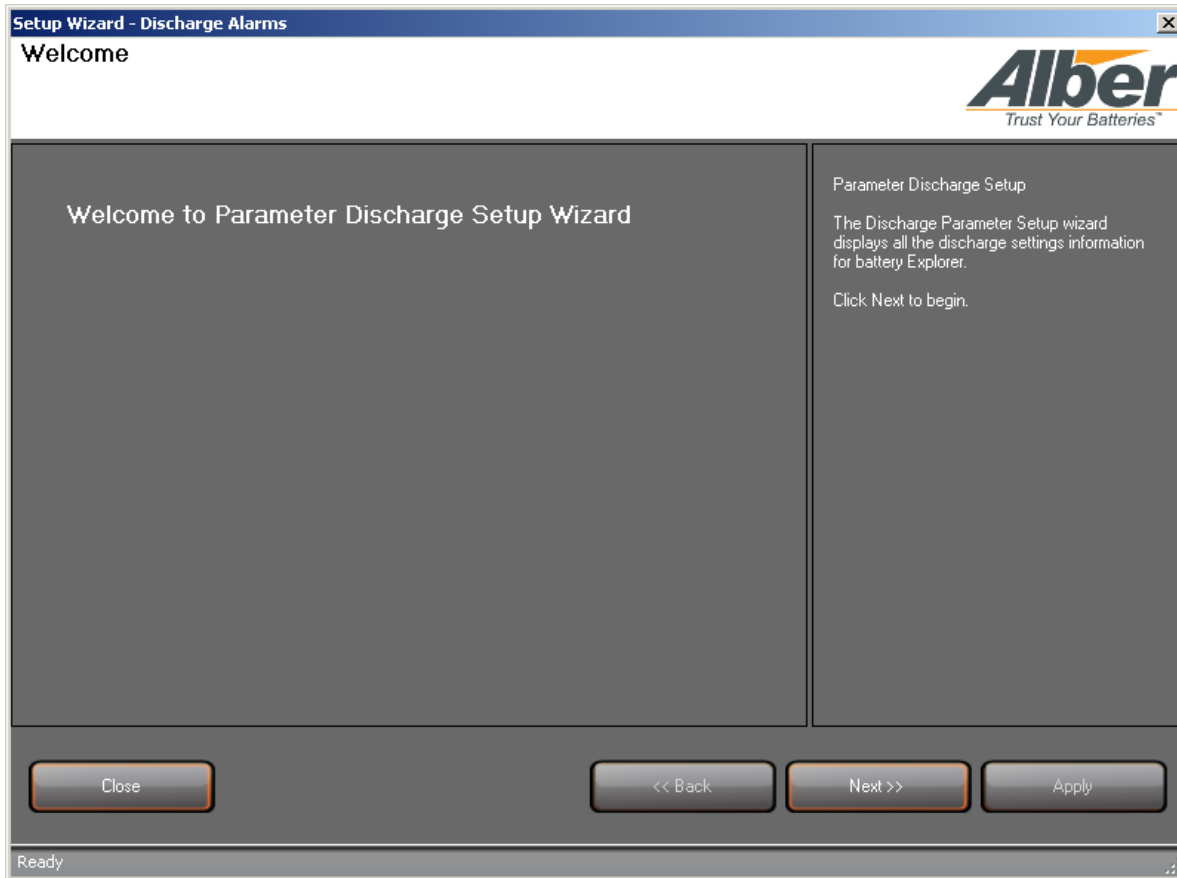


Figure 58 – Welcome to Parameter Discharge Setup Wizard

3. On the **Welcome to Parameter Discharge Setup Wizard** window, click **Next** to begin.

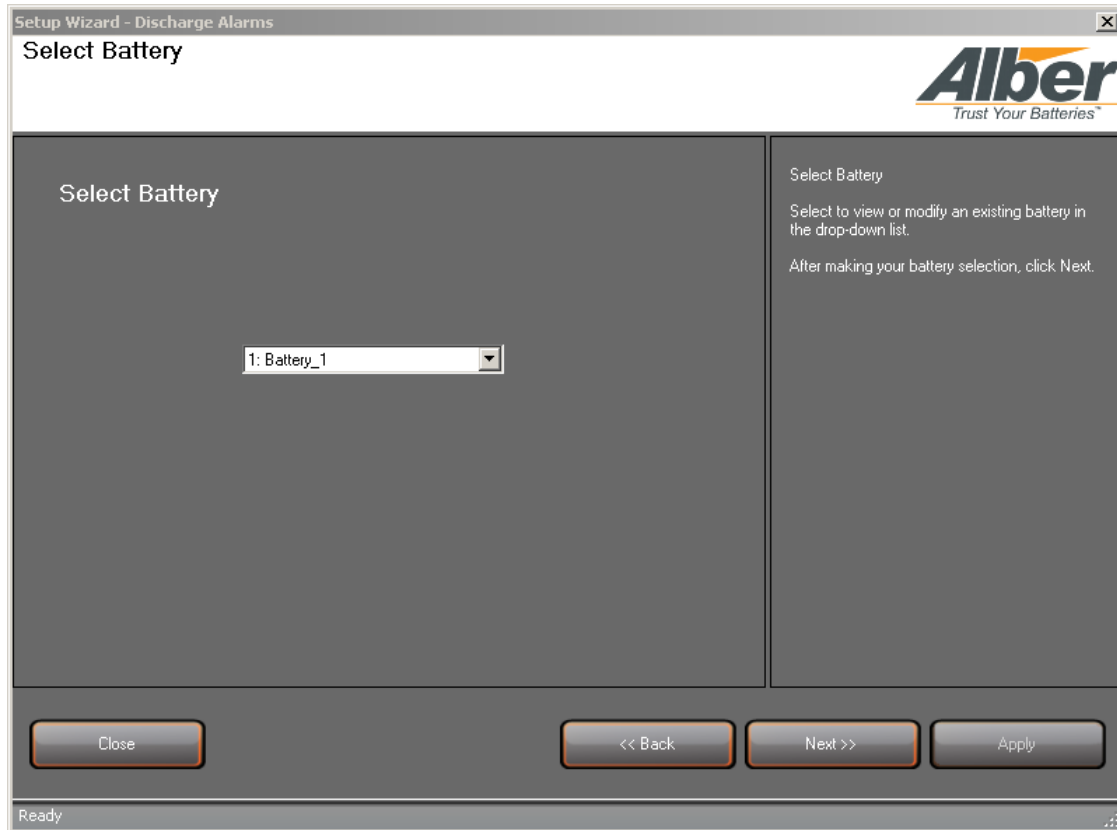


Figure 59 – Select Battery for Discharge Alarms

4. On the battery selection window, select the battery and click **Next**.



Note: The battery must have strings previously assigned.

5. On the **Alarm Type** window, select alarm type and alarm settings, click **Apply**, then **Next**.

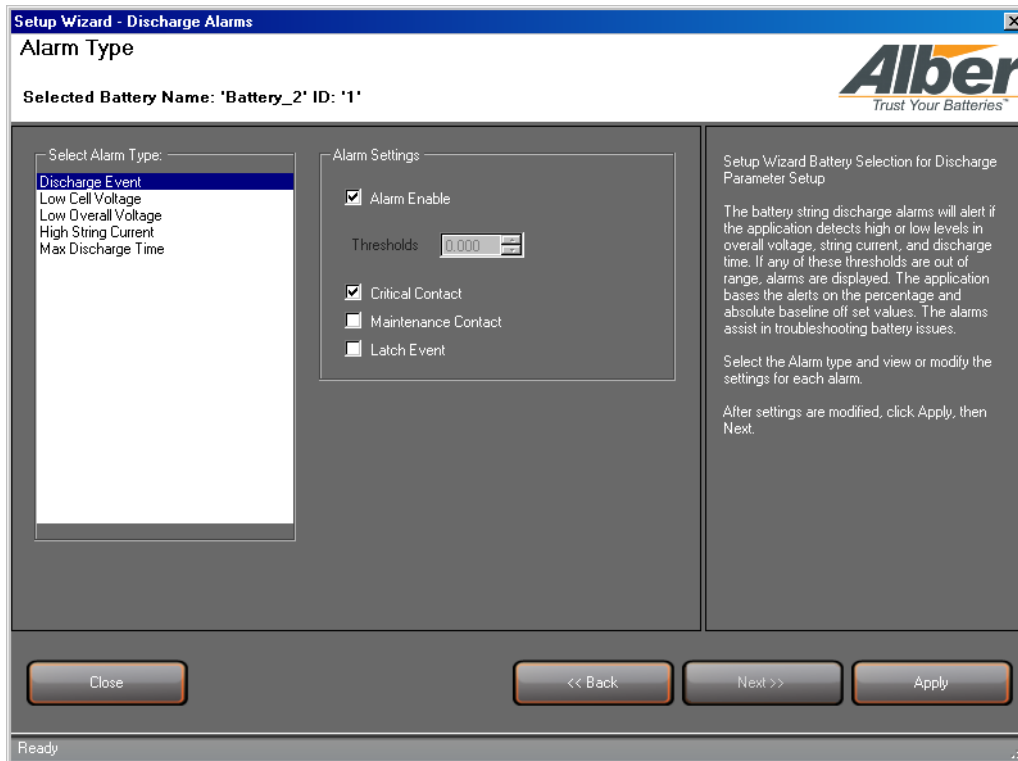


Figure 60 – Select Battery for Discharge Alarms

6. On the **Discharge Detection Method** window, select the discharge method (current or voltage mode and enter the voltage level) and click **Apply**, then **Next**.

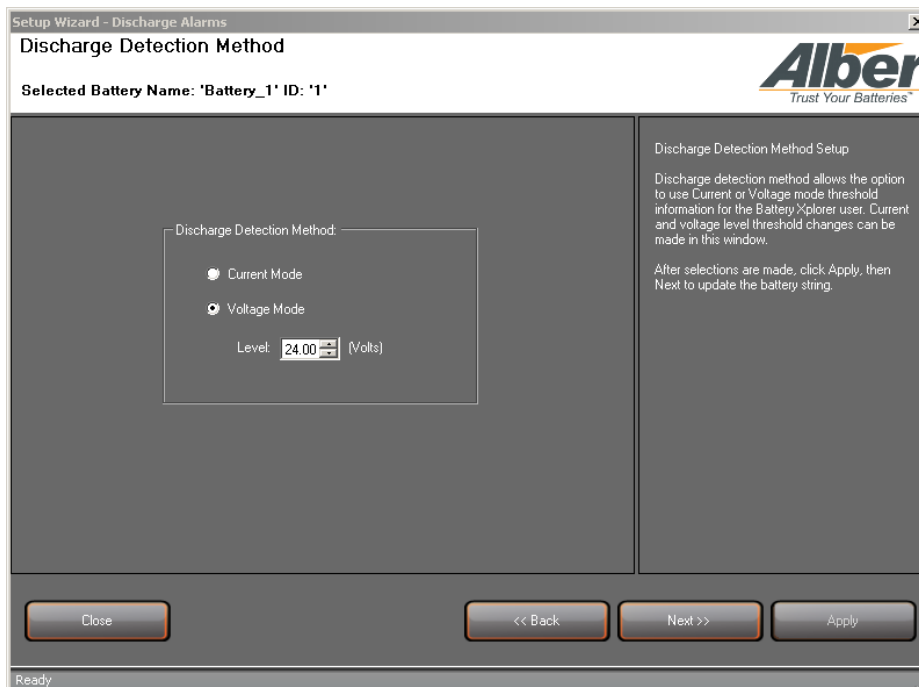


Figure 61 – Select Battery for Discharge Alarms



Note: For a discharge to take place, the voltage level must be greater than the total overall voltage of the system.

7. On the **Wizard Complete** window, click **Finish**.

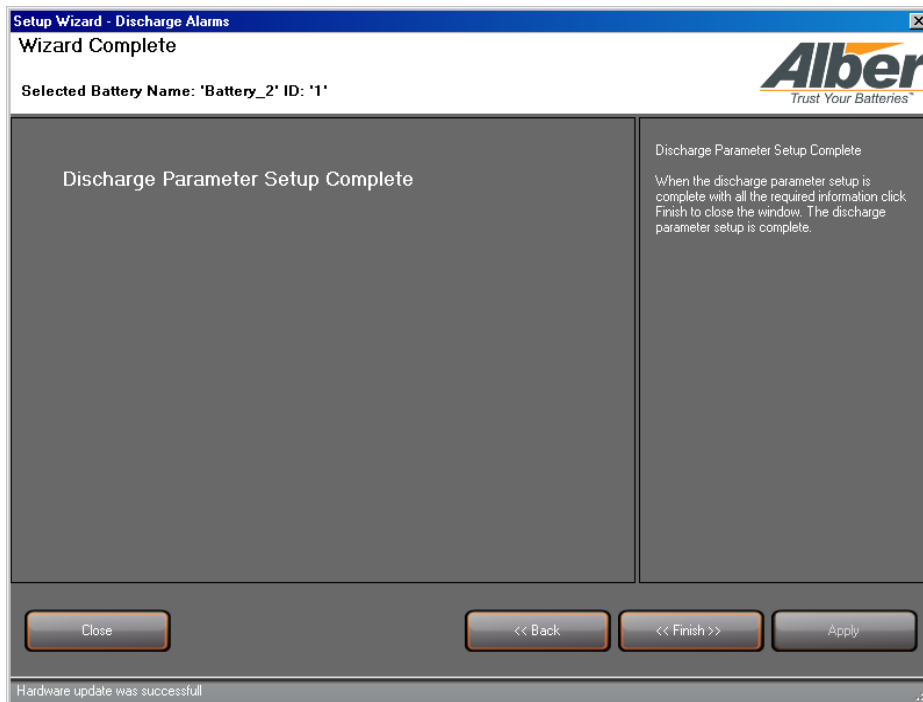


Figure 62 – Deviation Storage Thresholds Settings

11. Navigating through the Battery Explorer Monitor Application

The battery monitoring system uses several views that provide intuitive utilization of the Battery Explorer monitor application.

From the Battery Explorer main menu, a user can access the following:

- connection/configuration file
- preferences/setup/startup
- view options
- reports
- backup/restore/upgrades/calibration
- help text/documents/version number

The toolbar allows for quick access to select the following:

- System configuration files
- open an existing configuration file for editing or sending
- customized view options
- multiple window pane positions
- rotating and data view layouts in the window
- User Preferences

Other features include:

- Customer, location, hardware, battery, battery string, logging and test scheduling, float alarms and discharge information is accessible by clicking on items in the system navigation pane.
- Dynamic tool bars allow for testing, history and other views.
- Graphical real time data appears to show important information at a glance.
- Tabs allow for one click access to panels that allow for battery setup and other information, such as:
 - General
 - log and test
 - float alarms
 - discharge
 - cell voltage
 - cell temperature
 - cell resistances
 - summary
 - alarms
 - intercell resistance
 - active alarms
 - graphic and tabular history

Note: For additional information on specific panels and setup, refer to the help text.

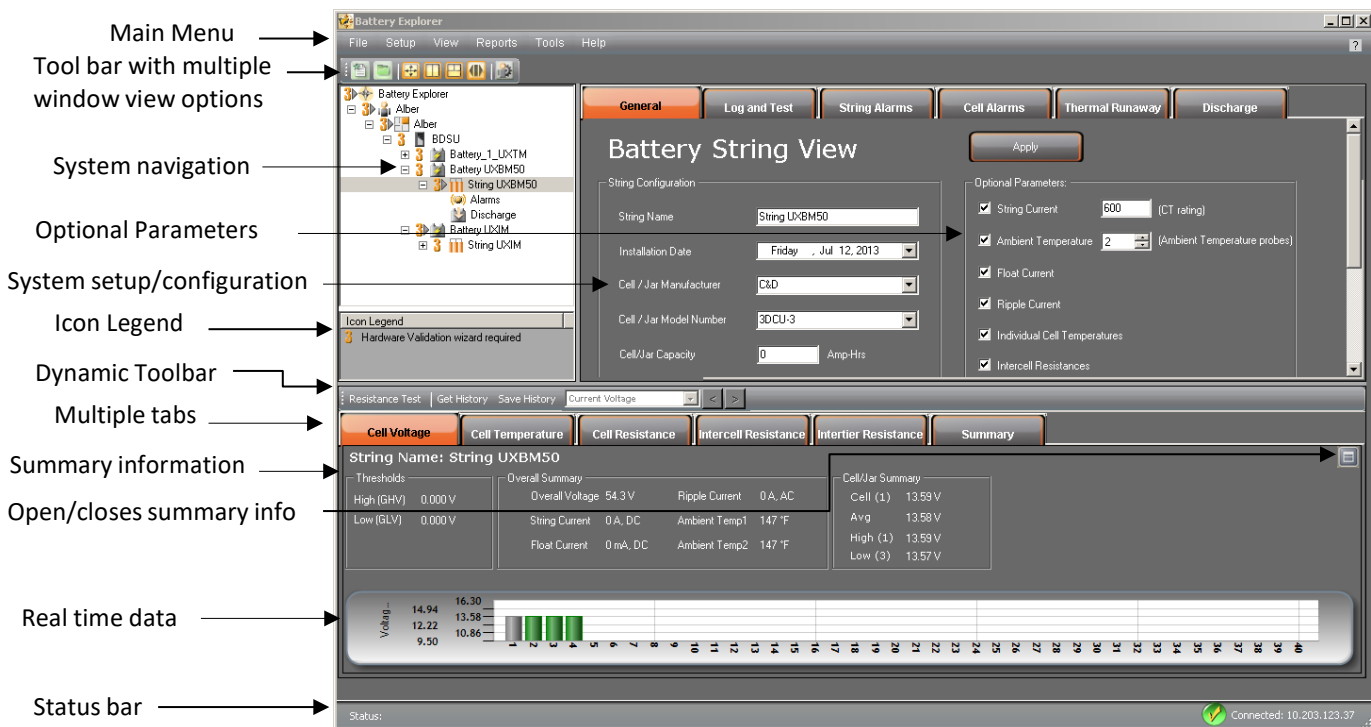


Figure 63 – Battery Explorer Display Descriptions

12. Navigation Icons

The following icons inform you what the system is currently implementing in the application:













Icon	Description of Icon
 Battery Explorer	Represents that the Battery Xplorer application is running. No action is required.
 Customer/Location View	Represents where all customer address and contact information is stored.
 Location View	Represents where the equipment is located. Location of address and contact information are stored here.
 Hardware View	Represents where the device and status information is found. Model and serial number, boot and flash firmware, address ID, hardware revision tag ID and PC time information are stored here.
 Battery View	Represents where the battery configuration information is found. Battery configuration and battery capacity information are stored here.
 Battery String View	Represents where the battery string view configuration information is found. String configuration and optional parameter information are stored here.
 Alarms	Represents where the Historical Alarm Filter Settings View information is found. Alarm types can be added removed saved and restored in the combo box. All active alarms can be viewed in the grid.
 Discharge	Represents the battery discharge view where playback interval, graph scaling, discharge events, and analysis of the discharge event can be analyzed.
 String is in discharge	System is detecting the battery string is in discharge. No action is required.
 1▶	Installation Validation correlates to the orange number 1. Meaning additional configuration needs to be done.
 2▶	Hardware Configuration correlates to the orange number 2. Meaning additional configuration needs to be done.
 3▶	Hardware Validation correlates to the orange number 3. Meaning additional configuration needs to be done.

Table 1 – Battery Xplorer Navigation Icons

13. Application Status Icons

The following icons inform you what the current system state is in the application.




Icon	Description of Icon
 A grey rectangular button with a yellow circular loading icon on the left and the text "Connecting..." on the right.	Represents that the Battery Xplorer application is connecting to a battery monitor.
 A grey rectangular button with a green checkmark icon on the left and the text "Connected: 10.203.123.37" on the right.	Represents what battery string the Battery Xplorer is connected to.
 A grey rectangular button with a circular loading icon on the left and the text "Downloading History..." on the right.	Represents that string history data is currently being downloaded for viewing.

Table 2 – Battery Xplorer Status Icons

14. Verification Installation

Refer to the appropriate Installation Guide as necessary to complete the following sections.

14.1 Equipment Mounting

Verify the unit is properly secure in the rack or on the wall. All cabling entering the unit should be neatly dressed and secured to prevent any inadvertent disconnections.

14.2 Safety Ground Connections

Verify the safety ground is properly connected and secured to a system ground connection.



Warning: Failure to connect this safety ground will violate safety agency requirements for this equipment.

14.3 Sense Lead Harness Connections

Referring to the Configuration Connection diagram in the Universal Xplorer Industrial Monitor (UXCM) Installation Guide or the Universal Xplorer Telecom Monitor (UXTM) Installation Guide, confirm all sense lead connections have been properly terminated and labeled.

14.4 Fused Load Lead Connections

Refer to the Configuration Connection diagram in the Vertiv Universal Battery Diagnostic System (BDSU-50) Battery Monitor Installation Guide, confirm all fused load lead connections have been properly terminated and labeled.

Add the fuses and use the following table to identify and verify what load input values will provide power to the equipment. There are three possible settings described in the chart below. In the chart, the battery configuration is defined as Number of Strings x Number of Jars/Cells x Voltage of each Jar/Cell.

14.5 Current Transducer Measurements

On the current transducer, check the voltage between ground pin 1 and the positive pin 4, voltage should be 15VDC and negative volts DC Pin 3. This will apply for open and cabinet applications.

14.6 Checking the Load Cable Voltage Measurement Approximate Values for a UXBM-50 System

Verify that all load cables are properly connected to the batteries.



Note: All cables must be connected to the correct points and properly crimped.

You must verify the voltages on the batteries. Use the following steps to verify the Load Cable Voltage Measurement Values.

1. Verify there are no fuses in the load cable fuse holders.
2. Verify the load cables are numbered.

3. Disconnect the load cables from the rear panel of the UXBM/50
4. Verify pins in the connectors cannot short to each other or to any surface.
Warning: High voltage may exist on the load cables.
5. Install the load cable fuses.
6. Connect the DMM (digital multimeter) positive (+) lead to the connector for load cable number 1.
7. Connect the DMM (digital multimeter) negative (-) lead to the connector for load cable number 2.
8. Refer to the following Load Cable Voltage table and verify the voltage is correct for your battery configuration.
9. Remove the DMM negative (-) lead from connector number 2 and connect it to the connector for load cable number 3.
10. Refer to the following Load Cable Voltage table and verify the voltage is correct for your battery configuration.
11. Continue measuring between load cable number 1 to the remaining load cable until all load cable voltages are verified.
12. After all voltages are verified, remove the DMM leads and connect the load cables back on to the UXBM-50.

The following load cable voltage measurements approximate values (unit DC Volts) for battery connections are shown in the table as an example of a ten jar system.

UXBM-50 Load Cable Voltage Measurement (Jars on Float)										
Battery Configuration	Load Lead 1-2 (Volts)	Load Lead 1-3 (Volts)	Load Lead 1-4 (Volts)	Load Lead 1-5 (Volts)	Load Lead 1-6 (Volts)	Load Lead 1-7 (Volts)	Load Lead 1-8 (Volts)	Load Lead 1-9 (Volts)	Load Lead 1-10 (Volts)	Load Lead 1-11 (Volts)
1X8X12V	27	54	81	108						
1X9X12V	27	54	81	121.5						
1X10X12V	27	54	81	108	135					
1X11X12V	40.5	81	121.5	148.5						
1X12X12V	27	54	81	108	135	162				
1X13X12V	27	54	81	108	135	175.5				
1X14X12V	40.5	81	121.5	162	189					
1X15X12V	40.5	81	121.5	162	202.5					
1X16X12V	54	108	162	216						
1X17X12V	40.5	81	121.5	162	229.5					
1X18X12V	40.5	81	121.5	162	202.5	243				
1X19X12V	40.5	81	121.5	162	202.5	256.5				
1X20X12V	54	108	162	216	270					
1X21X12V	40.5	81	121.5	162	202.5	243	283.5			
1X22X12V	40.5	81	121.5	162	202.5	243	297			
1X23X12V	40.5	81	121.5	162	202.5	243	310.5			
1X24X12V	40.5	81	121.5	162	202.5	243	283.5	324		
1X25X12V	40.5	81	121.5	162	202.5	243	283.5	337.5		
1X26X12V	40.5	81	121.5	162	202.5	243	283.5	351		
1X27X12V	40.5	81	121.5	162	202.5	243	283.5	324	364.5	
1X28X12V	54	108	162	216	270	324	378			
1X29X12V	40.5	81	121.5	162	202.5	243	283.5	324	391.5	
1X30X12V	40.5	81	121.5	162	202.5	243	283.5	324	364.5	405
1X31X12V	40.5	81	121.5	162	202.5	243	283.5	324	364.5	418.5
1X32X12V	54	108	162	216	270	324	378	432		
1X33X12V	54	108	162	216	270	324	378	445.5		

Table 3 – UXBM/50 Load Lead Cable Voltage Measurement Values for Battery Connections

Verification Installation

UXBM-50 Load Cable Voltage Measurement (Jars on Float)										
Battery Configuration	Load Lead 1-2 (Volts)	Load Lead 1-3 (Volts)	Load Lead 1-4 (Volts)	Load Lead 1-5 (Volts)	Load Lead 1-6 (Volts)	Load Lead 1-7 (Volts)	Load Lead 1-8 (Volts)	Load Lead 1-9 (Volts)	Load Lead 1-10 (Volts)	Load Lead 1-11 (Volts)
1X34X12V	54	108	162	216	270	324	378	459		
1X35X12V	67.5	135	202.5	270	337.5	405	472.5			
1X36X12V	54	108	162	216	270	324	378	432	486	
1X37X12V	54	108	162	216	270	324	378	432	499.5	
1X38X12V	54	108	162	216	270	324	378	432	513	
1X39X12V	54	108	162	216	270	324	378	432	486	526.5
1X40X12V	54	108	162	216	270	324	378	432	486	540
1X41X12V	54	108	162	216	270	324	378	432	486	553.5
1X42X12V	54	108	162	216	270	324	378	432	486	567
1X43X12V	67.5	135	202.5	270	337.5	405	472.5	540	580.5	
1X44X12V	67.5	135	202.5	270	337.5	405	472.5	540	594	
1X45X12V	67.5	135	202.5	270	337.5	405	472.5	540	607.5	
1X46X12V	67.5	135	202.5	270	337.5	405	472.5	540	621	
1X47X12V	81	162	243	324	405	486	567	634.5		
1X48X12V	67.5	135	202.5	270	337.5	405	472.5	540	607.5	648
1X49X12V	67.5	135	202.5	270	337.5	405	472.5	540	607.5	661.5
1X50X12V	67.5	135	202.5	270	337.5	405	472.5	540	607.5	675
1X2X16V	36									
1X8X16V	36	72	108	144						
1X9X16V	36	72	108	162						
1X10X16V	36	72	108	144	180					
1X11X16V	36	72	108	144	198					
1X12X16V	36	72	108	144	180	216				
1X13X16V	36	72	108	144	180	234				
1X14X16V	36	72	108	144	180	216	252			
1X15X16V	54	108	162	216	270					



Caution: Connecting the load wires incorrectly could cause an equipment failure if a resistance test is performed. Such failures are not covered under warranty.

UXBM-50 Load Cable Voltage Measurement (Jars on Float)										
Battery Configuration	Load Lead 1-2 (Volts)	Load Lead 1-3 (Volts)	Load Lead 1-4 (Volts)	Load Lead 1-5 (Volts)	Load Lead 1-6 (Volts)	Load Lead 1-7 (Volts)	Load Lead 1-8 (Volts)	Load Lead 1-9 (Volts)	Load Lead 1-10 (Volts)	Load Lead 1-11 (Volts)
1X16X16V	36	72	108	144	180	216	252	288		
1X17X16V	36	72	108	144	180	216	252	306		
1X18X16V	54	108	162	216	270	324				
1X19X16V	36	72	108	144	180	216	252	288	342	
1X20X16V	36	72	108	144	180	216	252	288	324	360
1X21X16V	54	108	162	216	270	324	378			
1X22X16V	54	108	162	216	270	324	396			
1X23X16V	72	144	216	288	360	414				
1X24X16V	54	108	162	216	270	324	378	432		
1X25X16V	54	108	162	216	270	324	378	450		
1X26X16V	54	108	162	216	270	324	378	432	468	
1X27X16V	54	108	162	216	270	324	378	432	486	
1X28X16V	54	108	162	216	270	324	378	432	504	
1X29X16V	54	108	162	216	270	324	378	432	486	522
1X30X16V	54	108	162	216	270	324	378	432	486	540
1X31X16V	54	108	162	216	270	324	378	432	486	558
1X32X16V	72	144	216	288	360	432	504	576		
1X35X16V	72	144	216	288	360	432	504	576	630	
1X36X16V	72	144	216	288	360	432	504	576	648	

Table 3 – UXBM/50 Load Lead Cable Voltage Measurement Values for Battery Connections (Continued)

14.7 Checking the Load Cable Voltage Measurement Approximate Values for a UXIM and UXTM System

Verify that all load cables are properly connected to the batteries.



Note: All cables must be connected to the correct points and properly crimped.

You must verify the voltages on the batteries. Use the following steps to verify the Load Cable Voltage Measurement Values.

1. Verify there are no fuses in the load cable fuse holders.
2. Verify the load cables are numbered.
3. Disconnect the load cables from the rear panel of the UXIM or UXTM.
4. Verify pins in the connectors cannot short to each other or to any surface.
 - Warning:** High voltage may exist on the load cables.
5. Install the load cable fuses.
6. Connect the DMM (digital multimeter) positive (+) lead to the connector for load cable number 1.
7. Connect the DMM (digital multimeter) negative (-) lead to the connector for load cable number 2.
8. Refer to the following Load Cable Voltage table and verify the voltage is correct for your battery configuration.
9. Remove the DMM negative (-) lead from connector number 2 and connect it to the connector for load cable number 3.
10. Refer to the following Load Cable Voltage table and verify the voltage is correct for your battery configuration.
11. Continue measuring between load cable number 1 to the remaining load cable until all load cable voltages are verified.
12. After all voltages are verified, remove the DMM leads and connect the load cables back on to the UXIM or UXTM.

The following load cable voltage measurements approximate values (unit DC Volts) for battery connections are shown in the table as an example of a ten jar system.

Load Cable Voltage Measurement Approximate Values (unit DC Volts) for Battery Connections						
Battery Configuration	Load Lead 1-2	Load Lead 1-3	Load Lead 1-4	Load Lead 1-5	Load Lead 1-6	Load Lead 1-7
1X58X2V	20v	40v	60v	80v	100v	116v
1X59X2V	20v	40v	60v	80v	100v	118v
1X60X2V	20v	40v	60v	80v	100v	120v
1X61X2V	20v	40v	60v	80v	100v	122v
1X62X2V	20v	40v	60v	80v	100v	124v

Table 4 – UXIM Load Lead Cable Voltage Measurement Values for Battery Connections

Load Cable Voltage Measurement Approximate Values (unit DC Volts) for Battery Connections																							
Battery Config	Load 1-2	Load 1-3	Load 1-4	Load 1-5	Load 1-6	Load 1-7	Load 1-8	Load 1-9	Load 1-10	Load 1-11	Load 1-12	Load 1-13	Load 1-14	Load 1-15	Load 1-16	Load 1-17	Load 1-18	Load 1-19	Load 1-20	Load 1-21	Load 1-22	Load 1-23	Load 1-24
1X18X1V	6v	12v	18v																				
1X12X2V	8v	16v	24v																				
2X12X2V	8v	16v	24v	0v	8v	16v	24v																
1X24X2V	12v	24v	36v	48v																			
1X6X4V	12v	24v																					
2X6X4V	12v	24v	0v	12v	24v																		
3X6X4V	12v	24v	0v	12v	24v	0v	12v	24v															
4X6X4V	12v	24v	0v	12v	24v	0v	12v	24v	0v	12v	24v												
1X12X4V	12v	24v	36v	48v																			
2X12X4V	12v	24v	36v	48v	0v	12v	24v	36v	48v														
1X4X6V	6v	12v	18v	24v																			
2X4X6V	6v	12v	18v	24v	0v	6v	12v	18v	24v														
3X4X6V	6v	12v	18v	24v	0v	6v	12v	18v	24v	0v	6v	12v	18v	24v									
4X4X6V	6v	12v	18v	24v	0v	6v	12v	18v	24v	0v	6v	12v	18v	24v	0v	6v	12v	18v	24v				
1X8X6V	12v	24v	36v	48v																			
2X8X6V	12v	24v	36v	48v	0v	12v	24v	36v	48v														
3X8X6V	12v	24v	36v	48v	0v	12v	24v	36v	48v	0v	12v	24v	36v	48v									
1X3X8V	8v	16v	24v																				
2X3X8V	8v	16v	24v	0v	8v	16v	24v																
3X3X8V	8v	16v	24v	0v	8v	16v	24v	0v	8v	16v	24v												
4X3X8V	8v	16v	24v	0v	8v	16v	24v	0v	8v	16v	24v	0v	8v	16v	24v								
1X6X8V	16v	32v	48v																				
2X6X8V	16v	32v	48v	0v	16v	32v	48v																
3X6X8V	16v	32v	48v	0v	16v	32v	48v	0v	16v	32v	48v												
4X6X8V	16v	32v	48v	0v	16v	32v	48v	0v	16v	32v	48v	0v	16v	32v	48v								
1X2X12v	12v	24v																					
2X2X12v	12v	24v	0v	12v	24v																		
3X2X12v	12v	24v	0v	12v	24v	0v	12v	24v															
4X2X12v	12v	24v	0v	12v	24v	0v	12v	24v	0v	12v	24v												
1X4X12v	12v	24v	36v	48v																			
2X4X12v	12v	24v	36v	48v	0v	12v	24v	36v	48v														
3X4X12v	12v	24v	36v	48v	0v	12v	24v	36v	48v	0v	12v	24v	36v	48v									

Table 5 – UXTM Load Lead Cable Voltage Measurement Values for Battery Connections



Caution: Connecting the load wires incorrectly could cause an equipment failure if a resistance test is performed. Such failures are not covered under warranty.

14.8 Ambient Temperature Sensor Connection

Referring to the Vertiv Battery Monitor Installation Guide, confirm the ambient temperature sensor has been connected and placed appropriately to monitor ambient temperature.

14.9 Communication Connection

Verify RS-485 communication is wired correctly. If intermittent communications exist, lower the baud rate or install the termination jumper on the last unit on the bus. Refer to the section Unit Configuration in the Vertiv Battery Monitor Installation Guide for additional details.

14.10 Alarm Contact Connection

Verify the alarm contact is properly wired to the facility monitor. Either a normally closed or normally open contact can be used and can be connected in a series or parallel scheme when accommodating multiple units on the same facility monitor alarm input.

14.11 Power Up the Monitor

To power up the system, insert the fuses in the first and last fuse leads on the first string (if using multiple strings in parallel).

14.12 Connect the Computer

Using the supplied cable (2025-108), connect the computer to the controller via the USB connector on the front of the UXCM. Start the software by selecting the Battery Xplorer under the Vertiv program group (All Programs, Alber, and Battery Xplorer).

15. UXCM Icons and Status Messages

Use the following table to determine the status of the UXCM device.











Status Type	Status Message	Description of Message and Resolution
System Warning	 Critical alarm	UXCM device has an active critical alarm. Red LEDs will light up on the UXCM device when an alarm is present. Press the Alarm reset button on the UXCM front panel to clear the latched alarms or reset alarms from the battery Xplorer alarms window.
System Error	 UXCM diagnostic	UXCM device is running in diagnostic mode. The UXCM is running in a backup application and the UXCM firmware must be upgraded. If this does not work, the device may need to be serviced by a qualified technical support representative.
System Information	 Firmware upgrade in progress	System is processing a UXCM firmware upgrade that is currently in progress.
System Information	 Informational	The device is in an informational state. Click on the device to see what additional information is available.
System Warning	 Maintenance alarm	UXCM device is showing maintenance alarm is active. Red LEDs will light up on the UXCM device when an alarm is present. Press the Alarm reset button on the UXCM device. Clear the latched alarms and reset alarms from the battery Xplorer alarms window.
System Information	 Powered up and operational	System is running in a normal operating state and is up and operational. All devices are communicating with the UXCM in a normal operation. No action is required.
System Information	 USB Disk Connected	A USB disk is connected to the UXCM device.
System Information	 USB Peripheral Connected	A USB peripheral is connected to the UXCM device.
System Information	 Alarm reset button active	The alarm reset button on the front panel of the UXCM is currently being pressed.
System Error	 Fiber optic communication error	The system's fiber optic connection is broken or the communications setup needs to be serviced. Use Initiate Use Network check to identify a break when the UXCM is not connecting to the network devices. Note: It is recommended to turn off network check once complete.

Table 6 – UXCM Icons and Status Messages

UXCM Icons and Status Messages (Continued)





Status Type	Status Message	Description of Message and Resolution
System Warning	 Internal hardware error	A problem is detected in the UXCM internally within the device storage or another internal operation or internal device. Try resetting the UXCM if problem persists. If this does not work, the device may need to be serviced by a qualified technical support representative.
System Warning	 Network node conflict	The network operating system is having a conflict with duplicate node IDs in the network and is having issues responding to the device. Run Rebuild Network from the Startup - Hardware Configuration window.
System Warning	 Network sequence error	The network operating system is out of sequence with the system's setup. Run Rebuild Network from the Startup - Hardware Configuration window.
System Error	 Persistent storage error	The problem may be with the internal persistent storage device. The device may need to be serviced by a qualified technical support representative.

Table 6 – UXCM Icons and Status Messages (Continued)

16. UXBM Icons and Status Messages

Use the following table to determine the status of the UXBM device.













Status Type	Status Message	Description of Message and Resolution
System Information	 Auto Calibration	Application is calibrating the UXBM device. No action is required.
System Information	 Cool down mode	System is allowing the jars to cool down after resistance test. This is typical after a resistance test is performed. No action is required.
System Information	 Firmware upgrade in progress	System is processing a UXBM firmware upgrade that is currently in progress.
System Information	 Informational	Device is in an informational state. Click on the device to get more information on what is happening.
System Information	 Powered up and operational	The system is running in a normal, powered up operating state. No action is required.
System Information	 Resistance test In progress	System is performing a resistance test. No action is required.
System Information	 Scan mode	System is collecting battery measurement data.
System Error	 Communication Error	UXBM cannot communicate with device. Could be a possible device error or broken link. Check network, also check for lights flashing on device. If this does not correct the issue, contact a Vertiv technical support representative for more information on communication errors.
System Error	 Device Status Indicates Error	System shows status errors on the UXBM device.
System Error	 Firmware file error	UXBM firmware file may not be compatible with the UXBM and the firmware update failed or another problem exists. Verify that it's the correct file and version for the UXBM device. If this corrects the error, no action is needed. If the file is the correct version for the device and the error is still happening, request another firmware file from your Vertiv technical support representative.
System Error	 Device Not scanning	The UXBM device is not scanning and flashing a red x. System is not running in scan mode. If a device is not scanning a problem must exist. Contact your Vertiv technical support representative.
System Warning	 Signature Error	System shows errors if the device has changed or does not match the configured device. Try reconfiguring the network. Contact an Vertiv technical support representative for more information.

Table 7 – UXBM Icons and Status Messages (Continued)

17. Resistance Test Result Icons and Status Messages

Use the following table to determine the status of the UXBM device in a resistance test.










Status Type	Status Message	Description of Message and Resolution
System Information	 Resistance test verification okay	The system ran a resistance test and the Jars passed. No action is required.
System Information	 Resistance test verification unknown	The resistance test has never been run on the UXBM previously. The UXBM could be new. A resistance test is required to run during string validation.
System Warning	 High ambient temperature detected	System is detecting a high ambient temperature around the device and the resistance test failed. Service is needed.
System Warning	 High test current detected	System is detecting high test current and the resistance test failed. Service is needed.
System Warning	 High voltage detected	System is detecting high voltage and the resistance test failed. Service is needed.
System Warning	 Low test current detected	System is detecting low test current and the resistance test failed. Service is needed.
System Warning	 Low voltage detected	System is detecting low voltage and the resistance test failed. Service is needed.
System Warning	 Wrong Hardware Configuration	System is detecting that the hardware configuration is not correct and the resistance test failed. The device does not match the system setup or the system has incorrect cell voltage. Service is needed on the hardware.
System Error	 Temperature Sensor Failed	A sensor that monitors the temperature could be failing, making the resistance test fail. Service may be needed.

Table 8 – Resistance Test Result Icons and Status Messages

Note: If you cannot resolve your issue, contact customer support if error messages continue to appear.

18. Startup Acceptance Report

To complete the BDSU-50 Startup Acceptance Report that follows, complete the Customer, Location and Commissioning Agent Information. The other spaces should have been filled in as instructed in previous sections of this guide.

BDSU-50 Startup Acceptance Report, Page 1 of 2	
Customer Information	
Customer Name	Customer Address
Customer Contact	
Customer Phone	
Customer Email	
Location Information	
Location Name	Location Address
Location Contact	
Location Phone	
Location Email	
Commissioning Agent Information	
Agent Name	Agent Address
Agent Phone	
Agent Email	
Date of Commissioning	
Equipment Information	
Model Number	System Configuration
Serial Number	Application Firmware Version
Installation Date	Bootloader Version
Cell/Monobloc Manufacturer	Cell/Monobloc Model Number

BDSU-50 Startup Acceptance Report, Page 2 of 2				
Parameter	Actual Measured Value	BDSU-50 Measured Value	Tolerance	Pass/Fail
Cell Voltage 1			1V range 0-4V	0.1% ±1mV
			2V range 0-4V	0.1% ±2mV
			4V range 0-6V	0.1% ±4mV
			6V range 0-9V	0.1% ±6mV
			8V range 0-12V	0.1% ±8mV
			12V range 0-18V	0.1% ±12mV
			16V range 0-24V	0.1% ±16mV
Cell Temperature 1			±2°F	
Overall Voltage			0.5% ±100mv	
Float Current			±50ma	
Ripple Current			±5%	
String Current			1% ±1amp	
Ambient Temperature			±0.5°F	
Average Internal Resistance	N/A		N/A	N/A
Average Intercell Resistance	N/A		N/A	N/A

Acceptance Report Completed By: _____

Date: _____

Acceptance Report Received By: _____

Date: _____

19. Using the Battery Xplorer Help Text

To get information on how to use the Battery Xplorer monitoring system, use the help text provided in the Battery Xplorer application. The help text can be accessed from the main menu by clicking **Help** then **Battery Xplorer Help**. Or Press **F1** from any specific window for context-sensitive help text. The Battery Xplorer help window appears with the following options:

- Choose the Contents tab, (which is the defaulted view) from the left pane of the help window to view all the books and topics in the help text.
- Choose the Index tab from the left pane of the help window to view all the keyword entries in the help text.
- Choose the Search tab from the left pane of the help window to search and view all the searched entries in the help text.

20. Using the Battery Xplorer Documentation

To get information on the Battery Xplorer monitoring system, the following documentation is available, product information, installation information and getting started using the Battery Xplorer monitoring system, use the documentation provided in the Battery Xplorer application. The documentation can be accessed from the main menu by clicking **Help** then **Documents**. The Battery Xplorer has the following user documentation:

- Product Description Guide gives you information on the features, capabilities, system overview, operating modes, model numbers, panel controls and indicators and system specifications of the Battery Xplorer monitoring system.
- Installation Manual provides information on safety information, preventative maintenance, system overview, system installation, materials needed, hardware configuration, installation considerations, mounting options, and UXCM, UXSM and UXBM device installations.
- Getting Started Guide explains how to setup and startup the Battery Xplorer monitoring system. The Guide also provides detailed information on how to setup the operational parameters and gives an overview of navigating through the Battery Xplorer application.

