

# **Alber Universal Xplorer Industrial and Telecom Monitors (UXIM) and (UXTM) Battery Monitor**

## **Getting Started Guide**

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# 1. General UXIM/UXTM Information

The sections in this guide are used to successfully start up the Universal Xplorer Industrial Monitor (UXIM) and the Universal Xplorer Telecom Monitor (UXTM). This process ensures proper functionality and integrity of the UXIM/UXTM installation.



**Warning:** Only properly trained personnel should perform the operations described in this guide.

Refer to the Universal Xplorer Industrial Monitor (UXIM) Installation Guide (4200-106) for installing and setting up the software on system computers.

Refer to the Universal Xplorer Telecom Monitor (UXTM) Installation Guide (4200-197) for installing and setting up the software on system computers.

## 1.1 Recommended Tools

The following tools are required:

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

## 1.2 Assumptions

It is assumed that:

- The UXIM/UXTM configuration software has been installed and is functioning properly.
- Personnel performing the UXIM/UXTM startup have received proper training.

### 1.3 Startup Tasks

The following is list of steps necessary to successfully complete the UXIM/UXTM startup. Depending on the requirements for the installation, some of these steps may not be needed.

<b>Start Up Task</b>	<b>Refer to Section</b>
Verify installation	Verify Installation, page 3
Power up monitor	Power Up the Monitor, page 9
Configure and verify settings	Configure and Verify Settings, page 14
Verify voltage readings	Voltage Reading , page 28
Verify temperature readings	Temperature Reading Verification, page 29
Verify resistance readings	Internal Resistance Reading Verification, page 30
Verify system current readings	System Current Reading Verification, page 35
Verify digital inputs	Digital Input Verification, page 35
Verify alarm relay contacts	Alarm Relay Contact Verification, page 36
Verify RS-485 communications	RS-485 Communication Verification, page 37
Set to Monitor mode	Set to Monitor Mode, page 38

**Table 1 - Startup Task List**

## 2. Verify Installation

Refer to the Universal Xplorer Industrial Monitor (UXIM) Installation Guide (part number 4200-090) as necessary to complete the following sections. Refer to the Universal Xplorer Telecom Monitor (UXTM) Installation Guide (4200-197) as necessary to complete the following sections.

### 2.1 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.

### 2.2 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.

### 2.3 Sense Lead Harness Connections

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

### 2.4 Fused Load Lead Connections

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

**Note:** Fused load lead connections are used only for open rack configurations.

Add 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.

### 2.5 Checking the Load Cable Voltage Measurement Approximate Values

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/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.

## Verify Installation

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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 onto the UXIM/UXTM.

The following table is an example of a ten jar system.

<b>Load Cable Voltage Measurement Approximate Values (unit DC Volts) for Battery Connections</b>						
<b>Battery Configuration</b>	<b>Load Lead 1-2</b>	<b>Load Lead 1-3</b>	<b>Load Lead 1-4</b>	<b>Load Lead 1-5</b>	<b>Load Lead 1-6</b>	<b>Load Lead 1-7</b>
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 2 - UXIM Load Lead Cable Voltage Measurement Values for Battery Connections**

## Verify Installation

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 3 - 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.

## 2.6 Ambient Temperature Sensor Connection

Referring to the Universal Xplorer Industrial Monitor (UXIM) Installation Guide, confirm the ambient temperature sensor has been connected and placed appropriately to monitor ambient temperature.

## 2.7 Digital Input Connection

Verify the digital inputs have been wired properly according to sensor requirements (for voltage source or contact closure). **Note:** Digital input connection is only supported with the UXTM unit.



**Caution:** If a voltage source is used, ensure the digital inputs polarity is correct and the input voltage does not exceed 60Vdc. Otherwise, the equipment will be damaged.

## 2.8 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 Universal Xplorer Industrial Monitor (UXIM) or the Universal Xplorer Telecom Monitor (UXTM) Installation Guide for additional details.

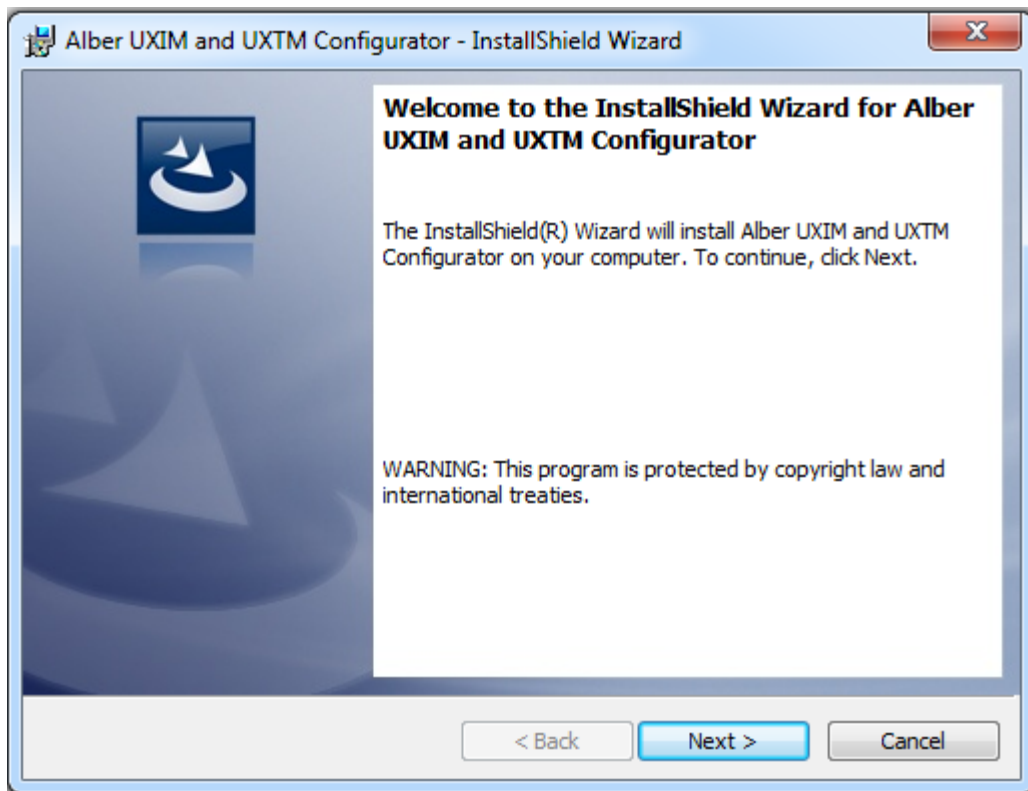
## 2.9 Alarm Contact Connection

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.

## 2.10 Installing the UXIM/UXTM Configurator Software Application

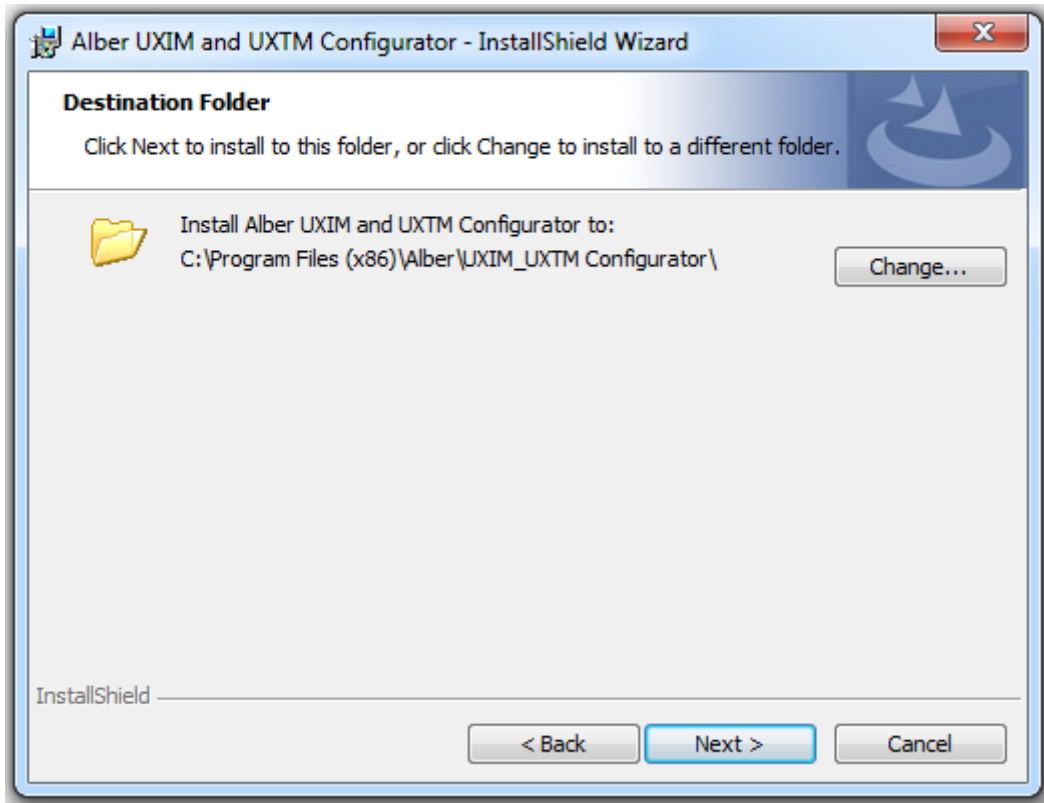
To install the UXIM/UXTM Configurator application software, follow these steps:

1. Insert the Vertiv UXIM/UXTM Configurator CD and double click on **Install** or browse the CD for the **setup.exe** file. The **Welcome to the InstallShield Wizard for Vertiv UXIM and UXTM Configurator** window appears.



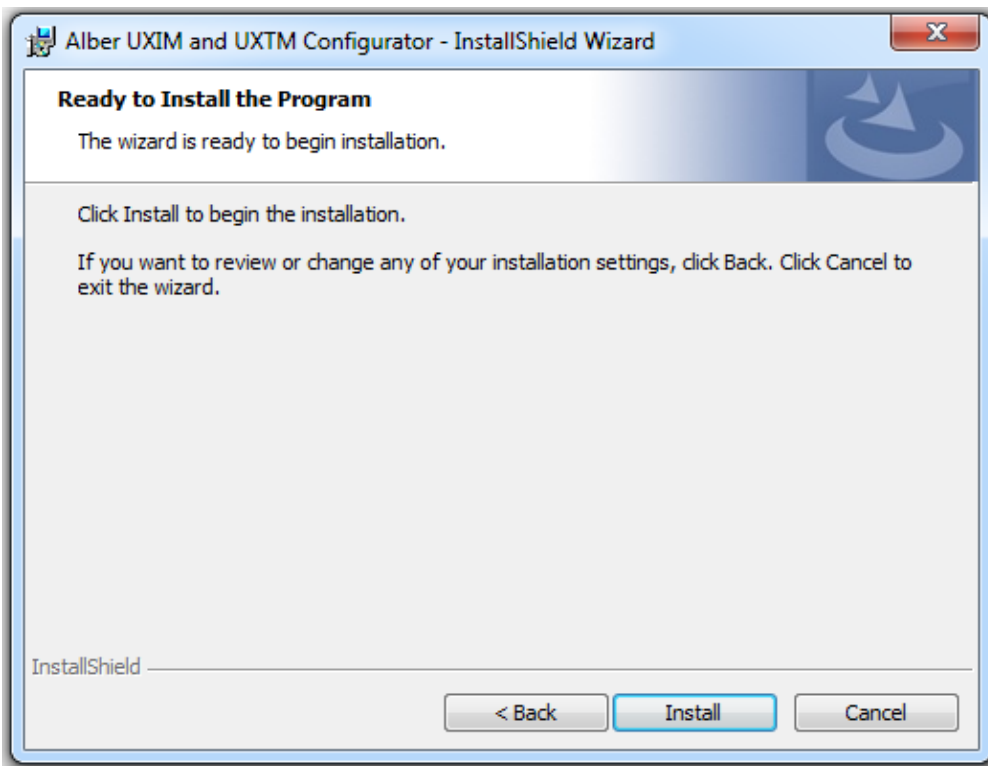
**Figure 1 - Installation Welcome Window**

2. Follow the prompts in the Vertiv UXIM and UXTM Configurator InstallShield wizard by clicking **Next**. The **Destination Folder** window appears for you to change the install to a different folder. If you want to change the folder click **Change...** Otherwise click **Next** to continue the installation.



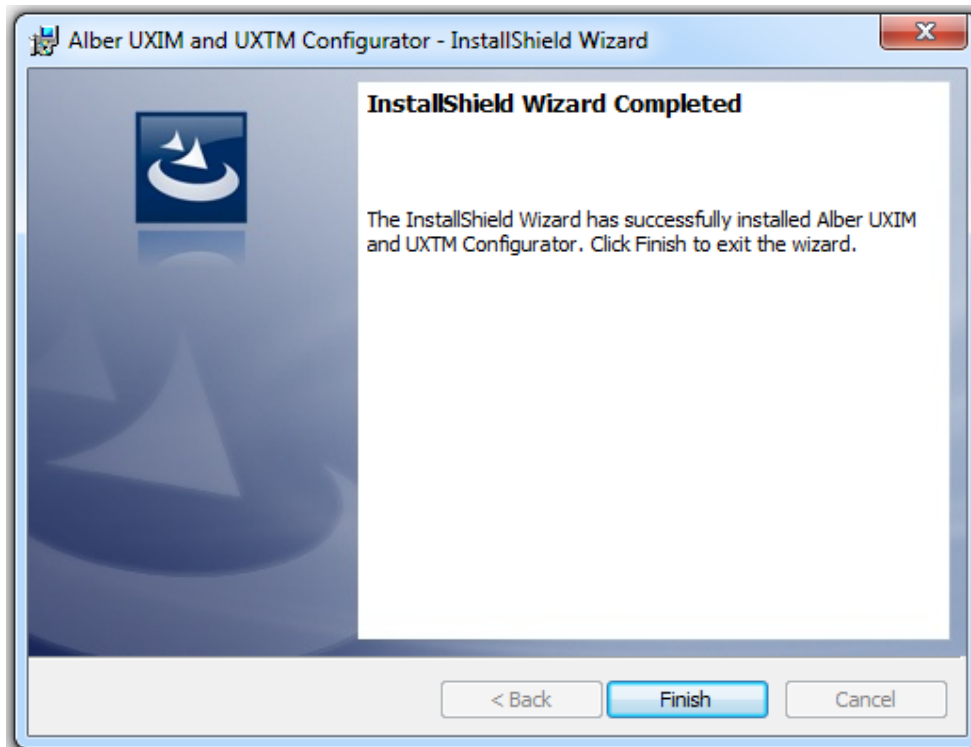
**Figure 2 - Destination Tools General UXIM and UXTM Information**

3. The **Ready to Install the program** window appears. Click **Install** to continue the installation. The **Progress** windows appears giving you the progress of the UXIM and UXTM Configurator installation.



**Figure 3 - Installation Progress Bar**

When the installation is complete the InstallShield Wizard Completed window appears.



**Figure 4 - UXIM and UXTM Installation Complete**

4. Click **Finish** and the software installation for the UXIM and UXTM Configurator application is complete.



## 3. Configure and Verify Settings

If the UXIM/UXTM configuration software has not been installed on the computer, this must be completed now. To install the UXIM/UXTM configuration software, insert the program CD into the computer and follow the on-screen instructions.

### 3.1 Power Up the Monitor

To power up the system, insert the fuses (4301-015) in the first and last fuse leads on the first string (if using multiple strings in parallel). The UXIM/UXTM unit uses the battery string current for power. No power supplies or outlets are needed.

### 3.2 Connect the Computer

Using the supplied cable (2025-108), connect the computer to the UXIM/UXTM via the USB connector on the front of the UXIM/UXTM. Start the software by selecting the UXIM/UXTM Configurator under the Vertiv program group (All Programs, Alber, UXIM/UXTM, UXIM/UXTM.exe).

### 3.3 Connecting to Monitor

To connect to an existing configured battery monitor, follow these steps.

1. Double click the **UXIM/UXTM** icon. The main UXIM/UXTM window appears.
2. Click **Connect to Monitor** icon. The Connecting to Monitor window appears.
3. In the Connection Type area, click the connection type that is available. Either **USB**, **Network**, or **Advanced**.
  - **USB** - connects directly into a specific local Battery Monitor system. Typically, the USB method is used by connecting a USB cable to a USB port on your computer then connecting the other end to the UXIM/UXTM device.
  - **Network** - searches across several network connections and finds all the available Battery Monitors. This includes the device number, IP Address, port number, and serial number.
  - **Advanced** - allows specific input to a battery monitor. This includes the network IP Address information and Port number.

To connect to a specific local battery monitor device, follow these steps.

1. In the connection type area, click **USB**.
2. Click **Connect to Monitor**, the Monitor connects to the device and the Cell Voltage window appears.

## Configure and Verify Settings

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To connect to a battery monitor device on the network, follow these steps.

1. To find battery monitors on the network, click **Network**, then click **Find Battery Monitor**. The system searches across the network and displays the Device Number, IP Address, Port Number, and Serial Number of all the available battery monitors on the network.
2. Select the available Device for connection to the battery monitor.
3. Click **Connect to Monitor**, the Monitor connects to the device and the Cell Voltage window appears.

To manually connect to a specific battery monitor IP address, follow these steps.

1. In the connection type area, click **Advanced**. The battery monitor connection can be made with the following entries.
2. Select a specific IP Address for the battery monitor connection. An IP Address is an identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. For example, 1.160.10.240 could be an IP address.
3. Enter the Port Number of a specific battery monitor. The port number defaults to 10001 and is only used for Configurator software Ethernet communication.
4. Click **Connect to Monitor**, the Cell voltage window appears. When the connection is successful, the batteries can be monitored using the UXIM/UXTM application.

After the software connects to the unit, a connected status icon will appear in the lower left corner of the program screen.

### 3.4 Viewing General Information about the UXIM/UXTM

To view general equipment information about the UXIM/UXTM do the following:

1. Click **Tools** on the navigation tree, the **General** tab appears as the default. The serial number, model number, firmware version, bootloader version and PCB Revision are view only for verification.

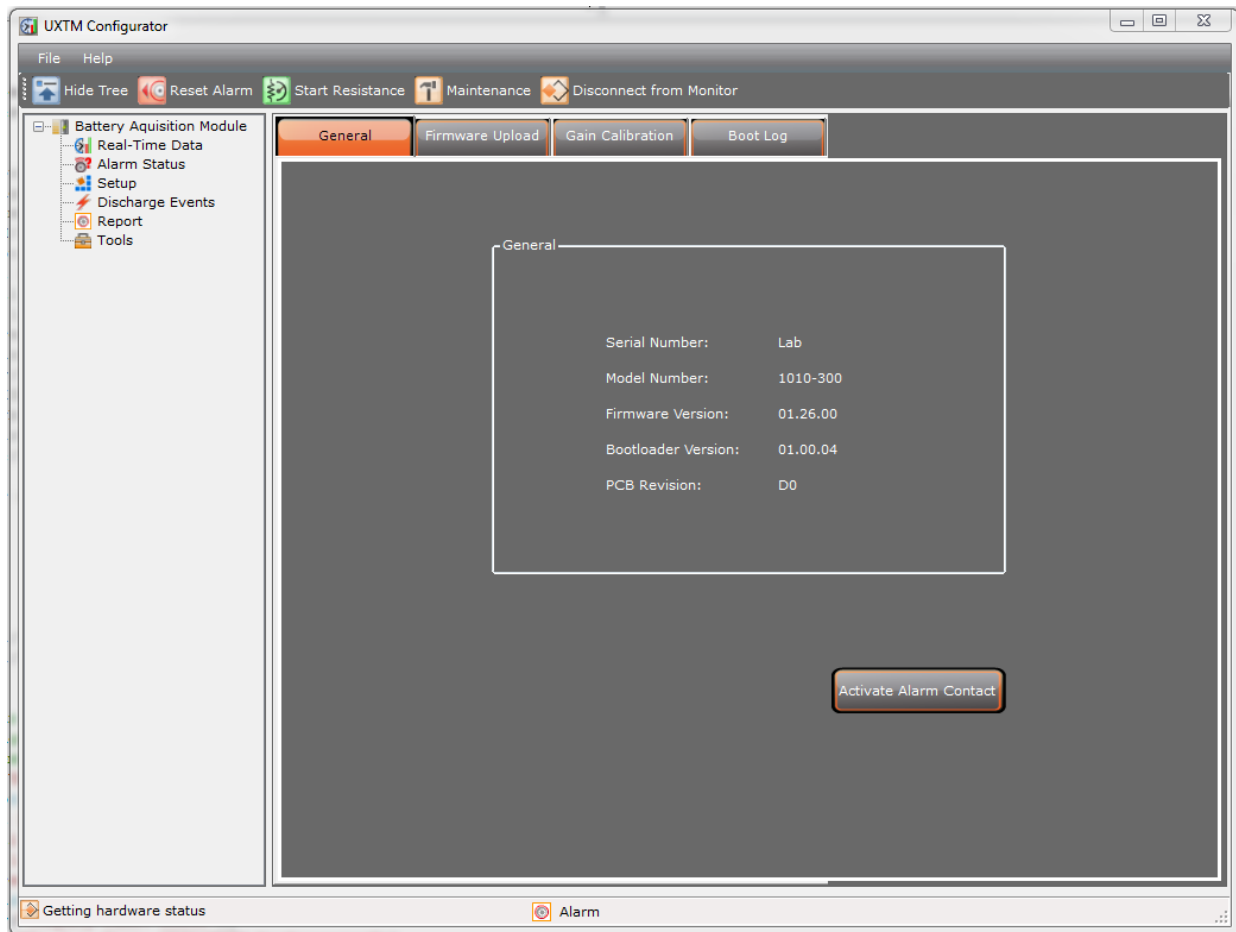


Figure 5 - Tools General UXIM/UXTM Information

For additional information, refer to the Startup Acceptance Report section 5, for details on the UXIM/UXTM.

Click the **Activate Alarm Contact** button to verify the alarm relay is functioning properly. Do this to verify that the contact closure changes state by activating an alarm within the building management system.

### 3.5 Verify and Upgrade Firmware Version on the Device

Verify the latest firmware is installed and record the installed version in the Acceptance Report. The latest version can be found at the [www.vertivco.com](http://www.vertivco.com) Web site. Vertiv recommends to install the latest version of firmware available.

To verify the firmware version on the device:

1. Check the installed version by clicking **Tools** on the navigation tree.
2. On the right side of the window, the system displays general information. The Application version is the current version installed. Note current installed firmware version and record it in the Acceptance Report in the Application Firmware Version space.

To upgrade the firmware on the device:

1. Click **Tools** on the navigation tree, then **Firmware Upload** tab.

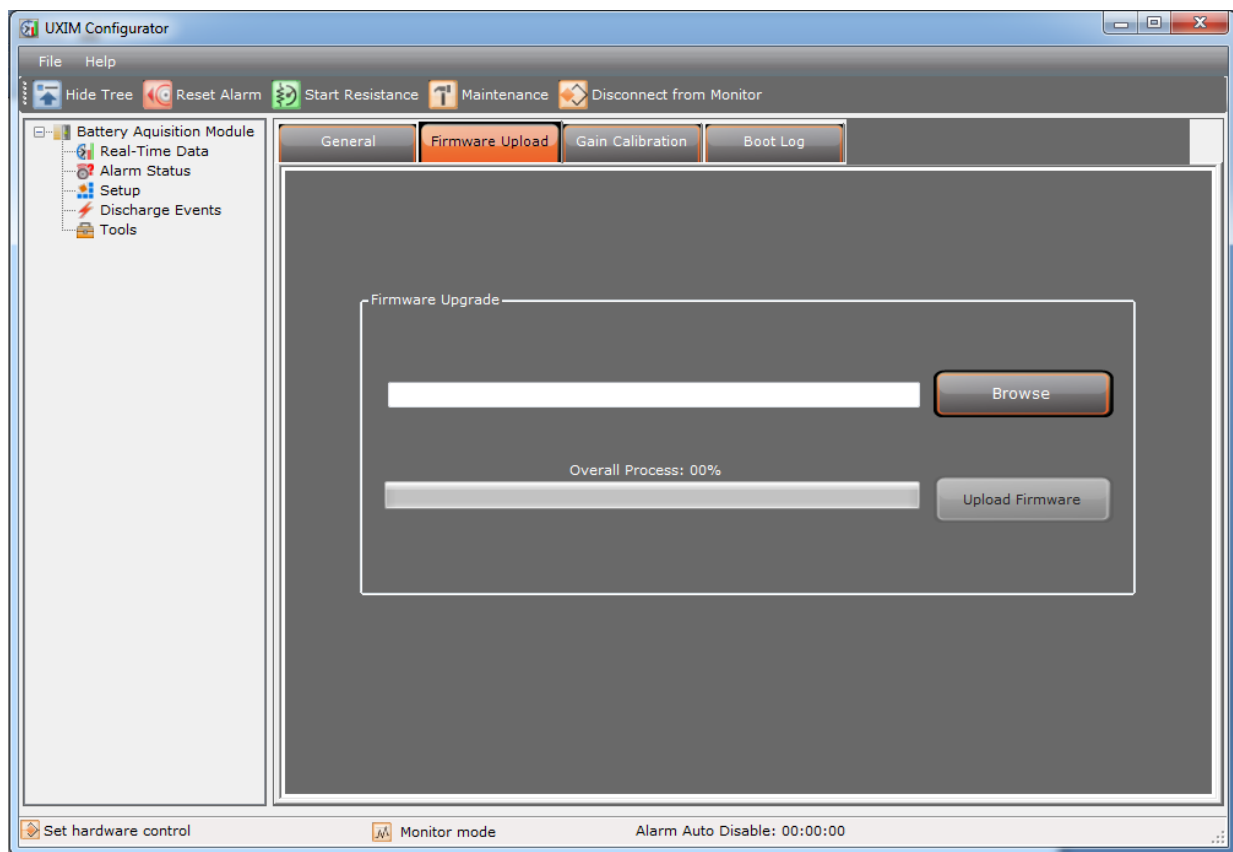


Figure 6 - Tools Firmware Upload

2. Click **Browse** and navigate to the firmware file. The Firmware file defaults to "C:\Program Files\Alber\UXIM\UXTM Configurator\UXIM\UXTM Firmware". The file name is called UXIM/UXTM.hex.
3. Click **Upload Firmware** button.
4. Verify the firmware upgrade has been uploaded to the system by checking the Application Version number on the **General** tab.

### 3.6 Boot Log Information

Review the latest boot log information. The latest information can be found on the Boot log Information tab.

To review the site information:

1. Click **Tools** on the navigation tree, then **Boot Log**.
2. The system displays the following site information:
  - **Boot log number** - shows the number of the log
  - **Reset Reason** - show the reason for the reset
  - **Reset Time** - shows the time of the reset
3. To refresh the boot log information window, click **Refresh**.

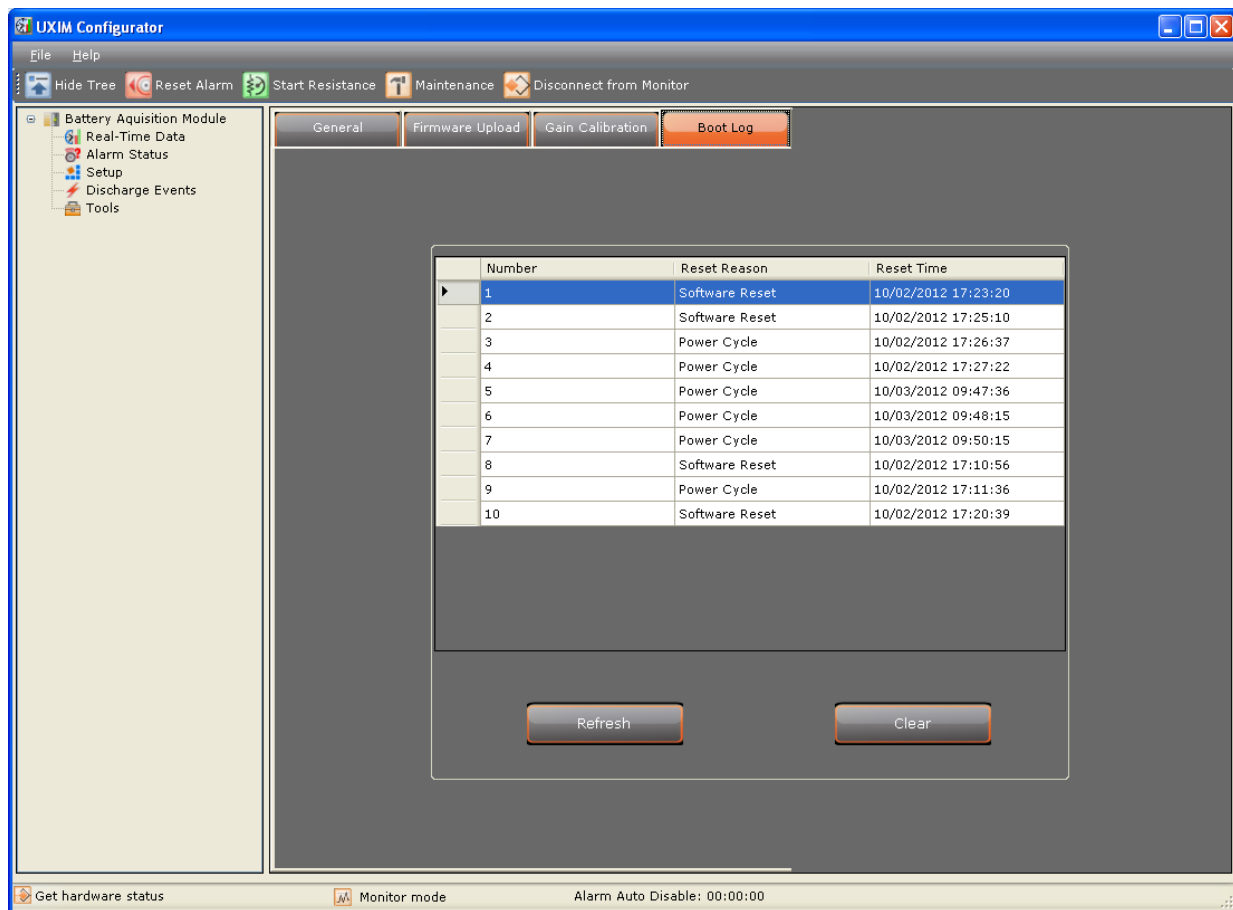


Figure 7 - Tools Boot Log

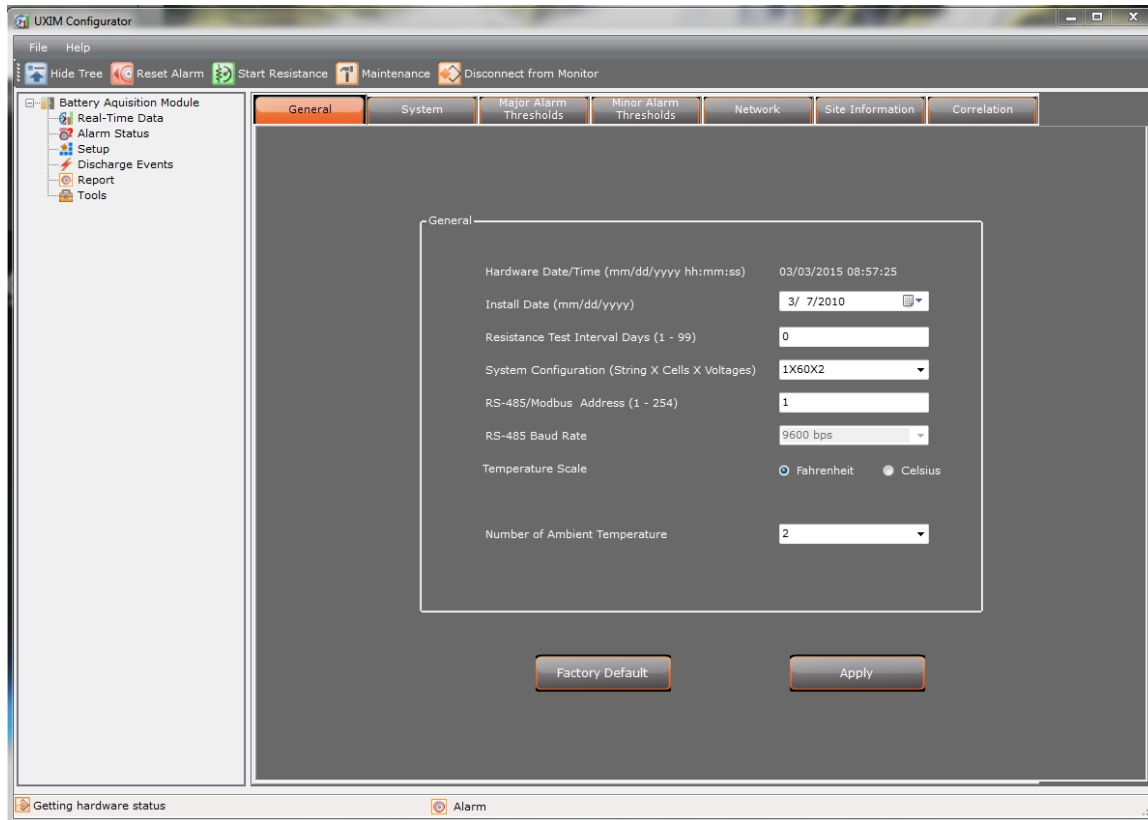
4. To clear the boot log information window, click **Clear**.

### 3.7 Set General Settings

General UXIM/UXTM Configurator settings must also be set. These settings can be found under Setup on the **General** tab.

To set the General settings on the UXIM/UXTM Configurator:

1. Click **Setup** on the navigation tree, the **General** tab appears as the default.



**Figure 8 - Setup General UXIM/UXTM Settings**

2. Use the drop-down list to set the date of when the equipment was installed.
3. Set the resistance test interval in days. This determines when an internal resistance test is performed, based on an automatic timer. The test will execute at midnight when the number of days reach the specified interval.
4. Select the battery configuration. The drop-down list is constructed by X Number of Strings, X Number of Cells and X number of Voltage in Cells. For example, 1X24X2 is one string of 24, 2 volt cells.
5. RS-485/Modbus Address (1-254) - enter the address number for the RS-485/Modbus, minimum is 1 and maximum is 254.

**Important:** When connection to a UXIM or UXTM device fails, go to the UXIM/UXTM Configurator application and verify the RS-485/Modbus Address (1-254) parameter correlates with the setting in the BMS monitoring software communicating with the device. For example, the Battery Xplorer Enterprise monitoring software requires an address value of one to establish communication with the device

## Configure and Verify Settings

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6. If the RS-485 Baud Rate interface is used, specify the address of the unit on the RS-485 bus in the drop-down list.
7. Select the temperature unit preference type of either Fahrenheit or Celsius. When Fahrenheit is selected, all temperature fields will be displayed in Fahrenheit. When Celsius is selected, all temperature fields will be displayed in Celsius.
8. Select the Number of Ambient Temperature probes by clicking the drop-down arrow to view and select to monitor none or one ambient temperature monitoring for UXTM. For UXIM select to monitor none, one or two ambient temperature
9. Click **Apply** to save the settings to the monitor. All UXIM/UXTM general settings are saved. If you want to revert to the factory default settings, click the **Factory Default** button and then click **Apply**. The factory default settings are:
  - Install Date: 3/7/2010
  - Resistance Test Interval: 0
  - System Configuration: 1X24X2V
  - RS-485/Modbus Address: 120
  - RS-485 Baud Rate: 19200 bps
  - Temperature Scale: Fahrenheit



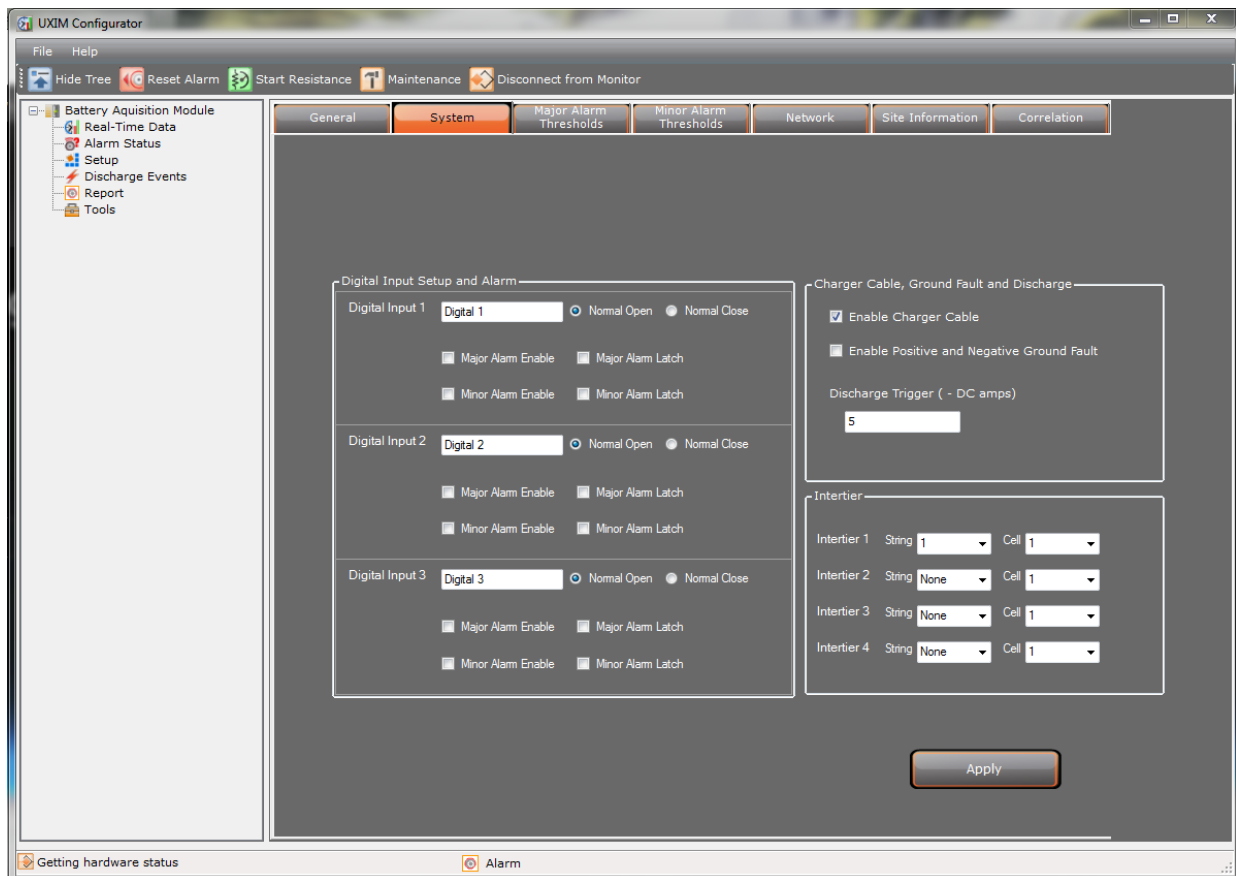
**Note:** When clicking **Apply**, the current date/time of the computer is sent to the monitor.

### 3.8 System Settings

System UXIM/UXTM Configurator settings must also be set. These settings can be found under Setup on the System tab.

To set the System settings on the UXIM/UXTM Configurator:

1. Click **Setup** on the navigation tree, and then click the **System** tab to view all the system setup options.



**Figure 9 - System Setup for Digital Input Charger Cable, Ground Fault, Discharge and Intertier**

2. Enter the digital input contact name and select either Normal Open or Normal Close. Currently three digital input ports are supported.
  - If normal open is selected the contact is open and no alarms will appear.
  - If normal closed is selected the contact is closed and alarms will appear.
3. Click the check box to enable or latch an alarm. To disable an alarm, leave the check boxes blank. The following alarm settings are available to use:
  - Major Alarm Enable
  - Major Alarm Latch
  - Minor Alarm Enabled
  - Minor Alarm Latch
4. Select the Charger Cable, Ground Fault and Discharge options:
  - Click the check box to enable charger cable alarm or leave the check box black to disable.



- Click the check box to enable positive and negative ground fault alarm or leave the check box blank to disable.
  - Enter a discharge trigger range in DC amps (1-35,000 amps). **Discharge Trigger (DC amps)**
    - If the string detects a discharge for a long time, this alarm appears. This is when a cell's voltage capacity was removed during the discharge and has exceeded the time limit. The default threshold is 50 DC amps
5. In the Intertier area, select an intertier (1-4) and in the drop-down list select the string number and cell number to specify the location of up to 4 intertiers.
- Note:** The system automatically discovers how many strings and cells are on the system.
6. Click **Apply** to save the settings to the monitor. All UXIM/UXTM system settings are saved.

### 3.9 Set String and Cell for Major and Minor Alarm Thresholds

Each parameter monitored has a Major and Minor Alarm threshold level that causes an alarm to be activated if the level exceeds the threshold settings. Alarm Threshold settings can be found under Setup on the Major and Minor Alarm Thresholds tabs. You have the option to enable and latch the alarms.

To set the Major and Minor Alarm Thresholds values:

1. Click **Setup** on the navigation tree, then **Major or Minor Alarm Thresholds** tab. The window shows two types of alarms that you can modify String alarms and cell alarms. Click the checkmark to enable and latch alarm options.
  - String Alarms include:
    - **High Ambient Temperature (F)** - If the ambient temperature is a higher value, this alarm appears. The temperature of the surrounding air that comes into contact with the battery is too warm. E.g., the battery room air temperature is too warm. The default threshold is 90 degrees.
    - **Low Ambient Temperature (F)** - If the ambient temperature is a lower value, this alarm appears. The temperature of the surrounding air that comes into contact with the battery is too cold. E.g., the battery room air temperature is too cold. The default threshold is 50 degrees.
    - **High Overall Voltage (DC volts)** - If the overall voltage is a higher value, this alarm appears. This is the battery voltage measured at its main positive and negative terminals. Excessive high voltage at any point in the DC system is undesirable because high voltage could result in too much heat and the loss of battery energy. The default threshold is 60 DC volts.
    - **Low Overall Voltage (DC volts)** - If the overall voltage is a lower value, this alarm appears. This is the battery voltage measured at its main positive and negative terminals. Excessive low voltage at any point in the DC system is undesirable because low voltage could result in the loss of battery energy. The default threshold is 40 DC volts.
    - **High Discharge (-DC amps)** - If the string current is a higher value, this alarm appears. The string current can go up when a number of cells connected together in series form too much current. The default threshold is 200 DC amps.

- **High Ripple Current (AC amps)** - If the ripple current noise level is a higher value, this alarm appears. The current drawn by a cell has a high noise level characterized by a uniform waveform riding in the DC circuit. The default threshold is 1 AC amps.
- **High Float Current (DC mamps)** - If the float current is a higher value, this alarm appears. The current drawn by a cell that is being float charged could be too high. Assuming the recommended float voltage is used, the cell will draw sufficient current to maintain itself fully charged. The default threshold is 5000 DC mamps.
- **Low Float Current (DC mamps)** - If the float current is a lower value, this alarm appears. The current drawn by a cell that is being float charged could be low. Assuming the recommended float voltage is used, the cell will draw sufficient current to maintain itself fully charged. The default threshold is 20 DC mamps.
- **Cell to Ambient Delta (F)** - The ambient delta temperature will compare the temperature range between of the surrounding air and the air that comes into contact with cell temperature before the alarm appears. The default threshold is 5.0 degrees.
- Enable Charger Cable
  - **Charger Cable Positive (microhms)** – If the positive charger cable in microhms is at a higher value than the specified threshold, the alarm will appear. The default threshold is 2000 microhms.
  - **Charger Cable Negative (microhms)** – If the negative charger cable in microhms is at a higher value than the specified threshold, the alarm will appear. The default threshold is 2000 microhms.
  - **Positive Ground Fault (kohms)** – If the positive ground fault in kilohms is at a lower value than the specified threshold, the alarm will appear. The default threshold is 10 kilohms
  - **Negative Ground Fault (kohms)** – If the negative ground fault in kilohms is at a lower value than the specified threshold, the alarm appears. The default threshold is 10 kilohms.
- Thermal Runaway alarms include:
  - **Cell to Ambient Delta (F)** - The ambient delta temperature will compare the temperature range between of the surrounding air and the air that comes into contact with cell temperature before the thermal runaway alarm appears. The default threshold is .0 degrees (F).
  - **Float Current (DC mamps)** - If the float current is at a higher or lower value, this alarm appears. The current drawn by a cell that is being float charged could be high or low. Assuming the recommended float voltage is used, the cell will draw sufficient current to maintain itself fully charged. The default threshold is 20 DC mamps.
- Major Minor Cell Alarms include:
  - **High Cell Voltage (DC volts)** - If the cell voltage is a higher value, this alarm appears. This is the voltage measured from the battery cell. Excessive high cell voltage at any point in the DC system is undesirable because high cell voltage could result in the advanced deterioration of battery life. The default threshold is 7.000 DC volts

- **Low Cell Voltage (DC volts)** - If the cell voltage is a lower value, this alarm appears. This is the voltage measured from the battery cell. Excessive low cell voltage at any point in the DC system is undesirable because low cell voltage could result in the loss of battery energy. The default threshold is 5.000 DC volts.
- **High Cell Resistance (microhms)** - If the cell resistance is a higher value, this alarm appears. The resistance of the battery cell is too high and could result in the advanced deterioration of battery life. The default threshold is 2000 microhms.
- **Low Cell Resistance (microhms)** - If the cell resistance is a lower value, this alarm appears. The resistance of the battery cell is too low and could result in the loss of battery energy. The default threshold is 500 microhms.
- **High Cell Temperature (F)** - If the cell temperature is a higher value, this alarm appears. The temperature of the battery cell is too high. The default threshold is 90.0 degrees.
- **Low Cell Temperature (F)** - If the cell temperature is a lower value, this alarm appears. The temperature of the battery cell is too cold. The default threshold is 50.0 degrees.
- **High Intercell Resistance (microhms)** - If the intercell resistance is a higher value, this alarm appears. The resistance of the connection between the terminals of two cells that are electrically connected to each other's intercell is too high and could result in the advanced deterioration of battery life. The default threshold is 500 microhms.
- **High Intertier 1 through 4 (microhms)** – Up to four possible Intertier combinations are allowed on a string and a cell. Enter string and cell values by entering the proper intertier resistance threshold to the high boundary of the intertier resistance alert trigger point in microhms. The default threshold settings are disabled when set to zero.

## Configure and Verify Settings

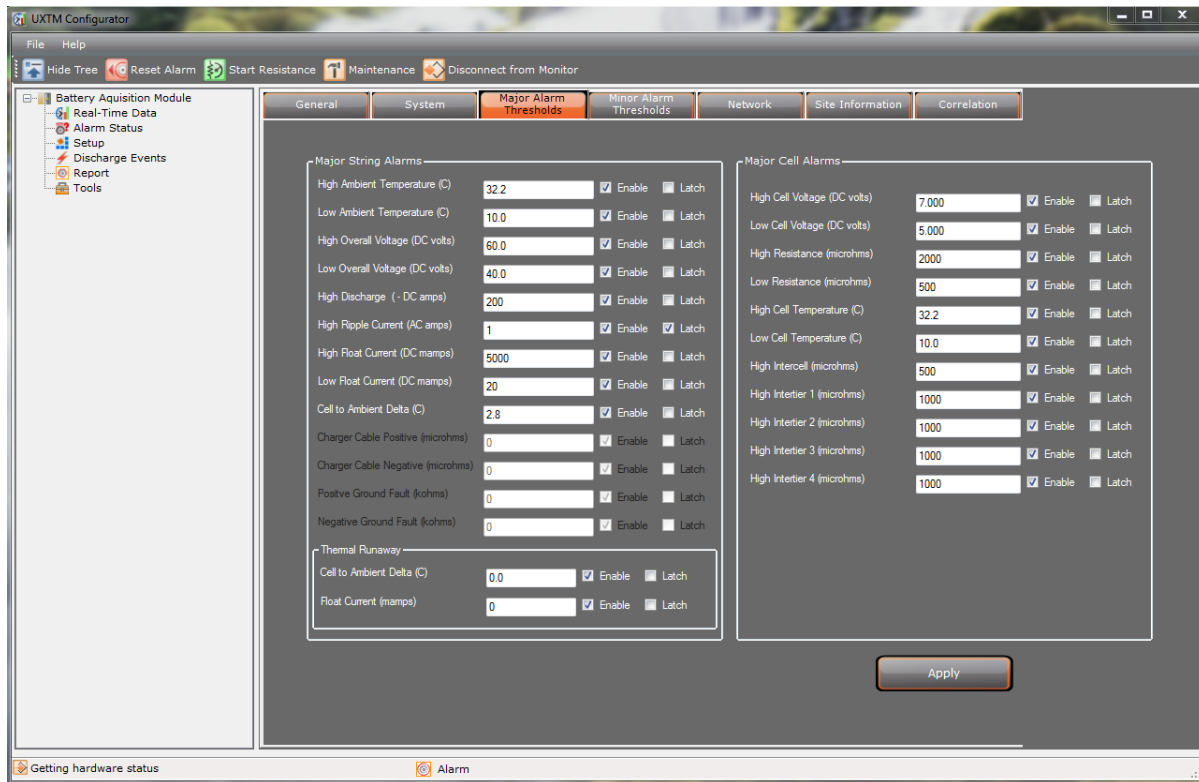


Figure 10 - Major Alarm Thresholds Setup

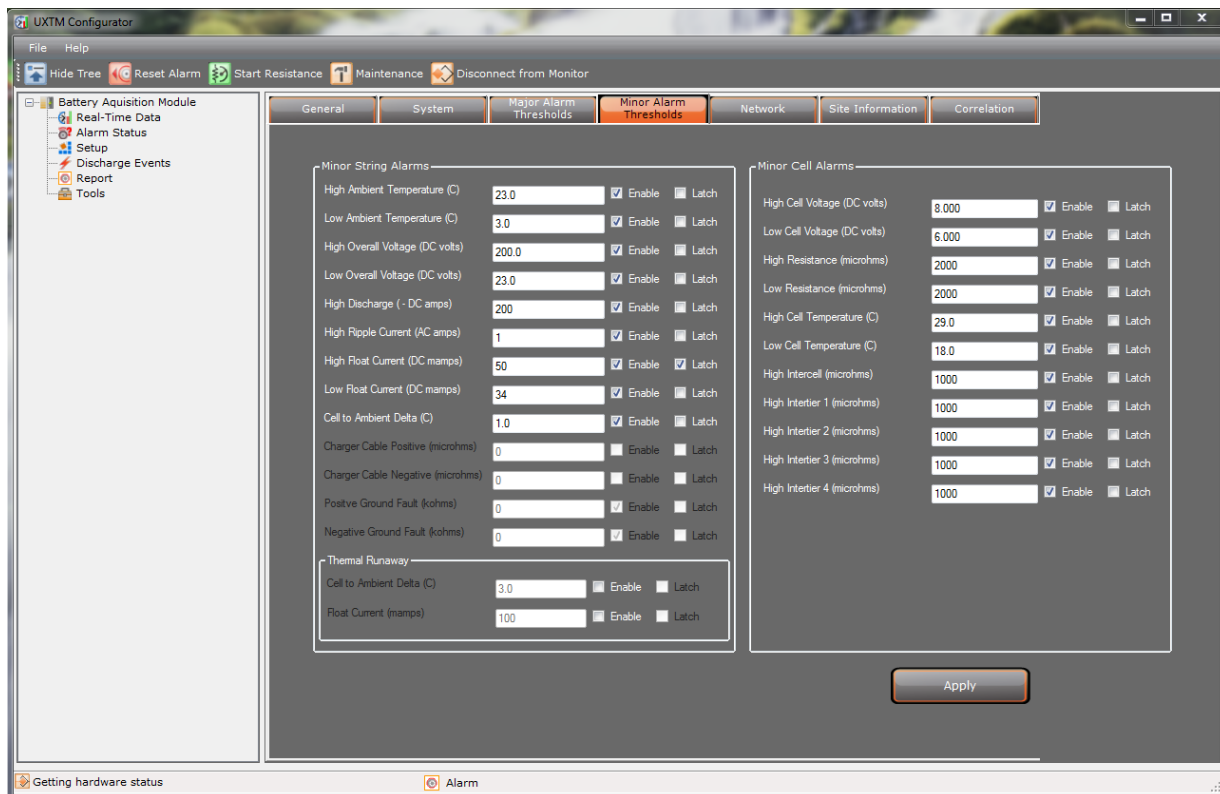


Figure 11 - Minor Alarm Thresholds Setup

## Configure and Verify Settings

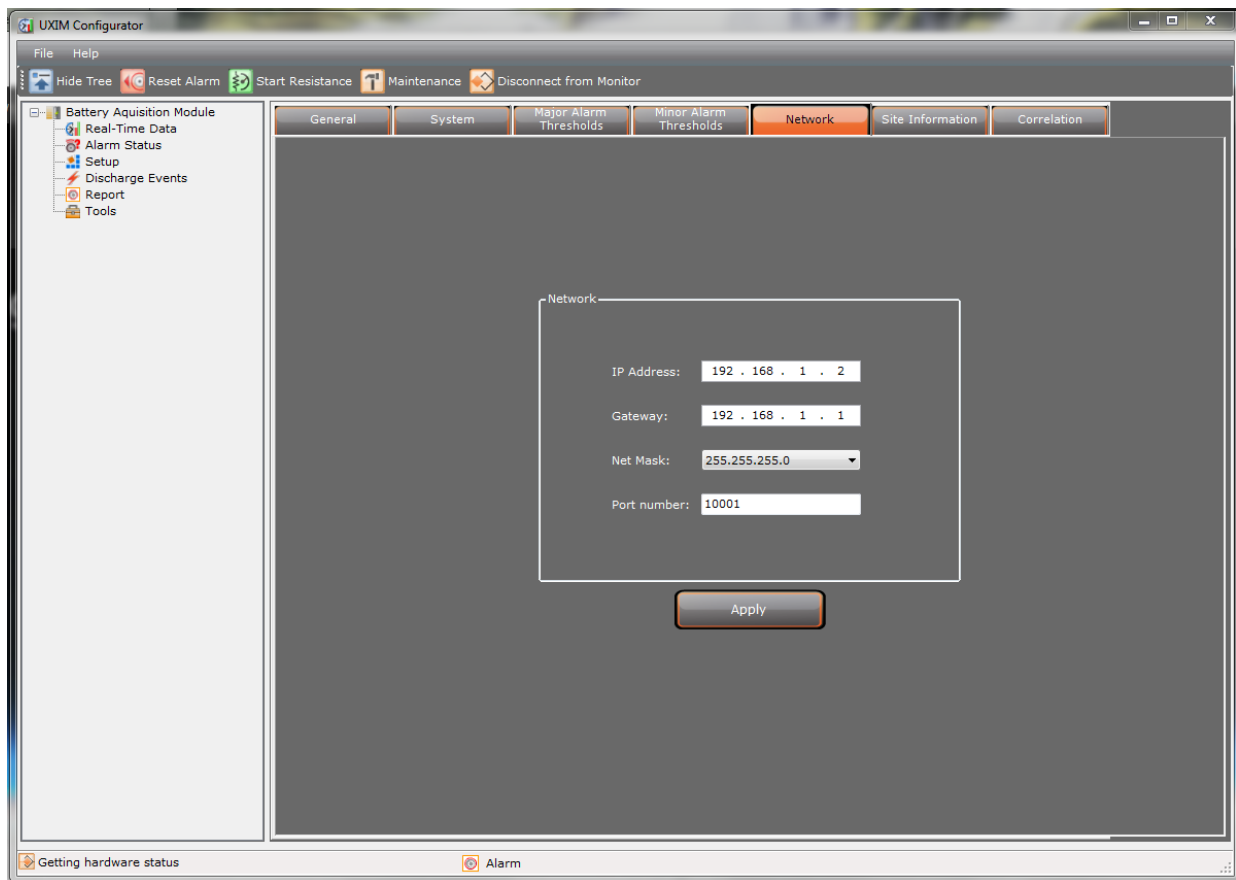
2. Set the values for each threshold setting to activate an alarm event if the level exceeds the threshold settings.
3. The threshold values are defaulted to disabled, you must check the box to Enable or Latch them individually. Click **Apply** to save the settings to the monitor.

### 3.10 Setup Network Settings

The UXIM/UXTM Configurator allows for the following network connection options:

- IP Address
- Gateway
- Net Mask
- Port Number

These are different methods for setting up connections to the UXIM/UXTM Configurator.



**Figure 12 - Setup Network**

To setup the network settings on the UXIM/UXTM Configurator follow these steps:

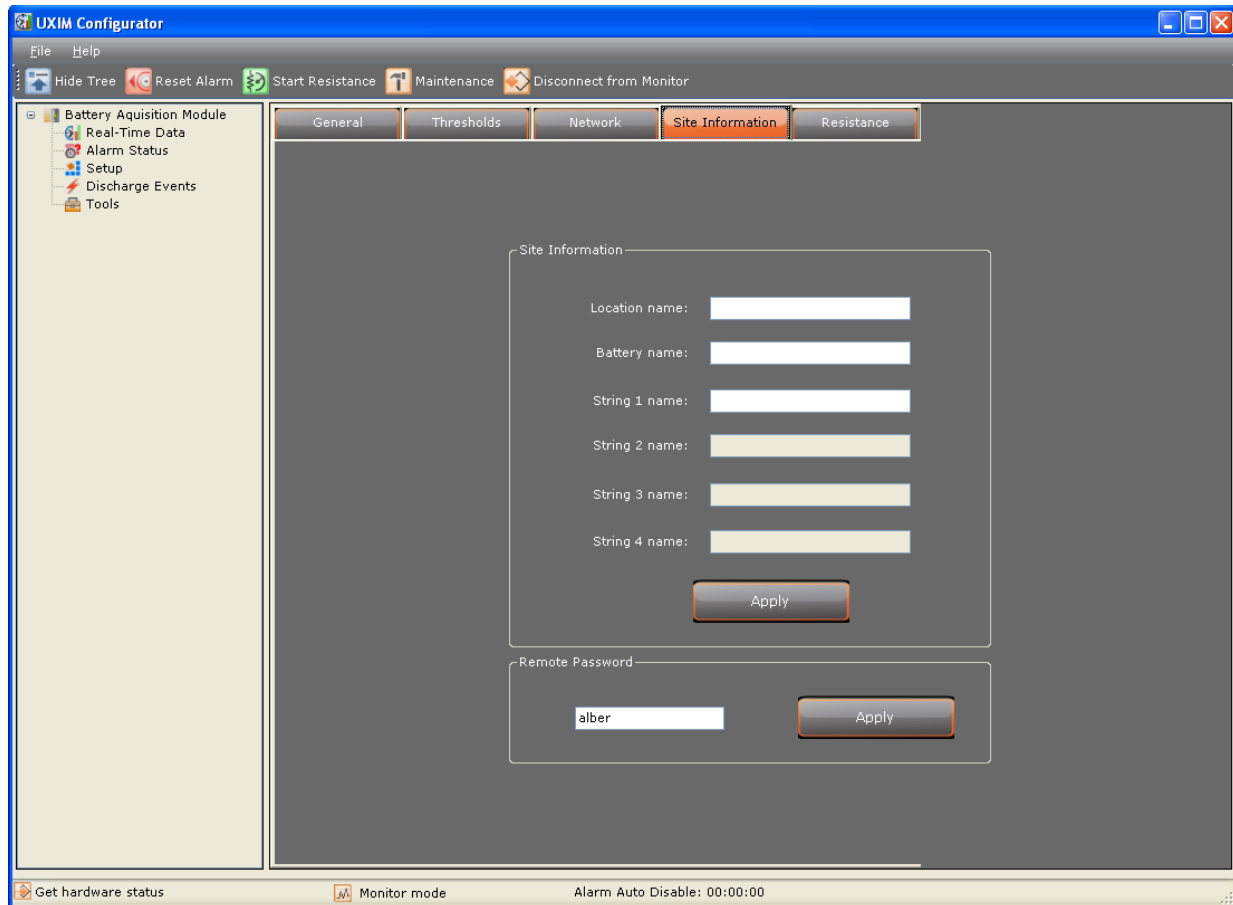
1. Click **Setup** on the navigation tree, then click **Network** tab and enter the IP address, gateway or net mask address in the following fields:
  - **IP Address** - modify the sample default IP address (xxx.xxx.x.xxx) and enter your specific IP address in the spaces provided when connecting through an IP address on the network.
  - **Gateway** - modify the sample gateway address and enter your specific gateway address in the spaces provided when connecting through a gateway address on the network.
  - **Net Mask** - modify the sample net mask address and enter your specific net mask address in the spaces provided or use the drop-down list to choose an available net mask address on the network.
  - **Port number** - modify the sample port number and enter your specific port number in the spaces provided when connecting through an available port number on the network.
2. Click **Apply** to save the network setup values.

### 3.11 Site Information

Review the latest site information. The latest information can be found on the Site Information tab.

To review the site information:

1. Click **Tools** on the navigation tree, then **Site Information**.
2. The system displays the following site information:
  - **Location name** - enter the location name of where the device is located.
  - **Battery name** - enter the name of the battery
  - **String 1 name** - enter the name of string 1
  - **String 2 name** - enter the name of string 2
  - **String 3 name** - enter the name of string 3
  - **String 4 name** - enter the name of string 4
3. To apply the site information entries or changes, click **Apply**.



**Figure 13 - Tools Site Information**

4. In the remote password area, enter the password of your choice and click **Apply**.

**Note:** The UXIM only supports one battery string.

### 3.12 Correlation Settings

The Correlation settings allow correction factors to be established for the discharge current reading and the difference of internal resistance reading between the Cellcorder and UXTM/UXIM battery monitors. Additionally, an Intercell Reference setting can be set to specify which intercell will be used for measuring the float and discharge current.

#### **Why Are Correction Factors Needed?**

Depending on the battery construction and how the sense leads are connected to the battery could result in a difference in readings when compared to an alternate current measuring device or cellcorder. Reference Section 10.2 – System with Dual or Multiple Positive and Negative Posts in the UXTM Installation Guide for a better understanding of these different types of battery constructions. The Internal Resistance Factor setting allows the resistance readings measured by the monitor to correlate with the readings measured by the Cellcorder.

### Notes:

- When making measurements with the Cellcorder, it is advised to use the clamp style measurement leads to obtain the best repeatable results.
- When making Cellcorder measurements, placement of the test leads must be made as close as possible to the same location where the monitor sense leads are attached.
- If there are parallel strings being monitored, it is assumed that the same battery model and configuration in respect to battery layout and monitor installation are the same. Therefore, only the correlation for the first string is needed.

To establish the internal resistance correlation factor, perform the following steps:

1. Perform an internal resistance test by selecting the Real-Time Data node within the navigational tree. Then select the Internal R tab followed by clicking **Start** below the bar graph.
2. Enter the Setup node within the navigational tree. Then select the Correlation tab. Under the Internal Resistance section, the average value will be populated automatically as a result of the internal resistance test previously taken in step 1. It should be noted if there are any resistance readings that would be considered bad or significant outliers from the rest of them, these readings must be ignored and a new average manually calculated by excluding them. Enter this new manually calculated average into the Measured Average Value field.
3. Using a Cellcorder, manually take a set of resistance readings for each cell. If there are parallel strings, take these measurements on the first string being monitored by the battery monitor.
4. Using a Cellcorder, manually take a second set of resistance readings of each cell. These are the same readings repeated as in step 3. It is important to do at least two sets of readings to mitigate the inaccuracies of how the leads are manually placed.
5. Average all of the individual readings taken in step one by adding them all up and then dividing it by the total amount of readings. For example, if there are 24 cells there should be a total of 48 readings obtained from steps 3 and 4. Add all of these readings together and divide them by 48.
6. Enter this average value into the “CRT Average Value” and select **Apply**.
7. A new baseline resistance test must be performed to obtain new values corrected with the correlation factor. To do this, enter the Real-time Data screen and perform a new resistance test, but ensure the Set baseline is selected on the Internal R tab screen.
8. Any new resistance test taken is automatically corrected based on the correlation factor established.

**Discharge Current Factor** - This setting allows the discharge current reading of the monitor to correlate with the actual discharge current. To obtain this correlation factor, it is necessary to temporarily place the battery under load while measuring the current with an alternate meter like a clamp on current meter.

### Notes:

- If a resistance correlation is going to be used, this must be done prior to these steps.
- If there are parallel strings being monitored, it is assumed that the same battery model and configuration in respect to battery layout and monitor installation is the same.
- A short discharge of the battery will be required to obtain the value.



## Configure and Verify Settings

To establish the discharge current correlation factor, perform the following steps:

1. Place a calibrated clamp-on current meter around one of the main battery cables to monitor the discharge current from the battery. If multiple strings are being monitored by the battery monitor, ensure this current measurement is being made on the first string.
2. Place a load on the battery while monitoring the clamp on measurement meter value.
3. Enter the Setup node within the navigational tree. Then click the **Correlation** tab. While the battery is being discharged, the Measured Value under the Discharge Current section should be updated real-time. Monitor the value of the clamp – on meter and when the current measurement become stable, enter this value in the Actual Value for the Discharge Current section and click **Apply**.
4. Remove the load from the battery.

**Intercell Reference** – In most cases, this will remain as the default setting of Intercell 1. The only time this would be changed is when advised by an Vertiv representative.

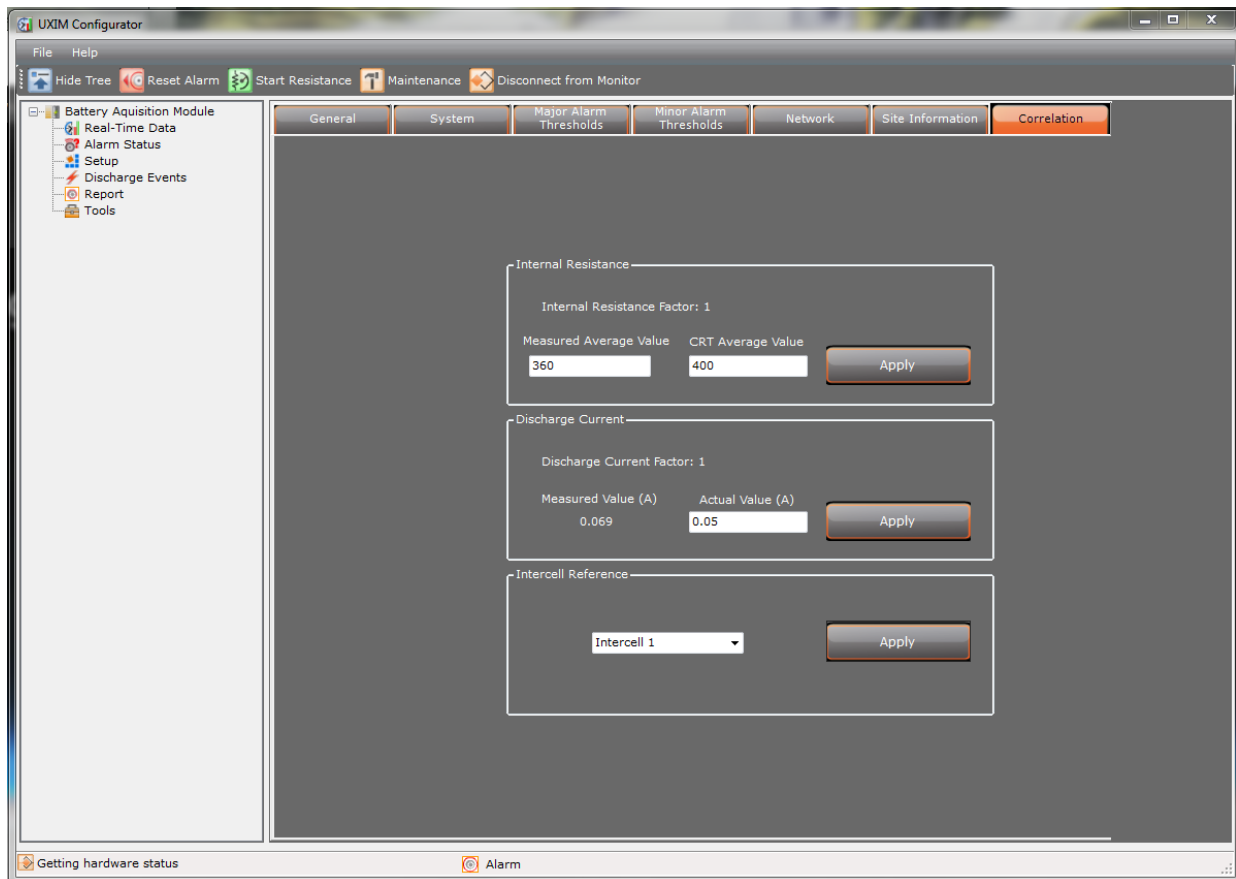


Figure 14 - Setup Correlation

### 3.13 Setting Baselines

In order to ensure accurate current battery readings, cells must run a special resistance test. As the resistance test progresses, cells are checked. In a multi-string battery system, this test is best done with the strings isolated from each other.

To set baselines:

1. Click the **Real-Time Data** on the navigation tree, then the **Internal R** tab.
2. Enable the resistance test by checking the **Set baseline** checkbox.
3. Click **Start**. Click **Yes** to continue baseline setup.

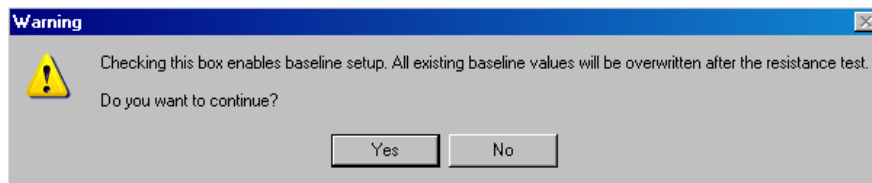


Figure 15 - Enabling Baseline Setup Message

4. It may take five minutes for a typical system with 24 jars. Smaller systems will take less time.

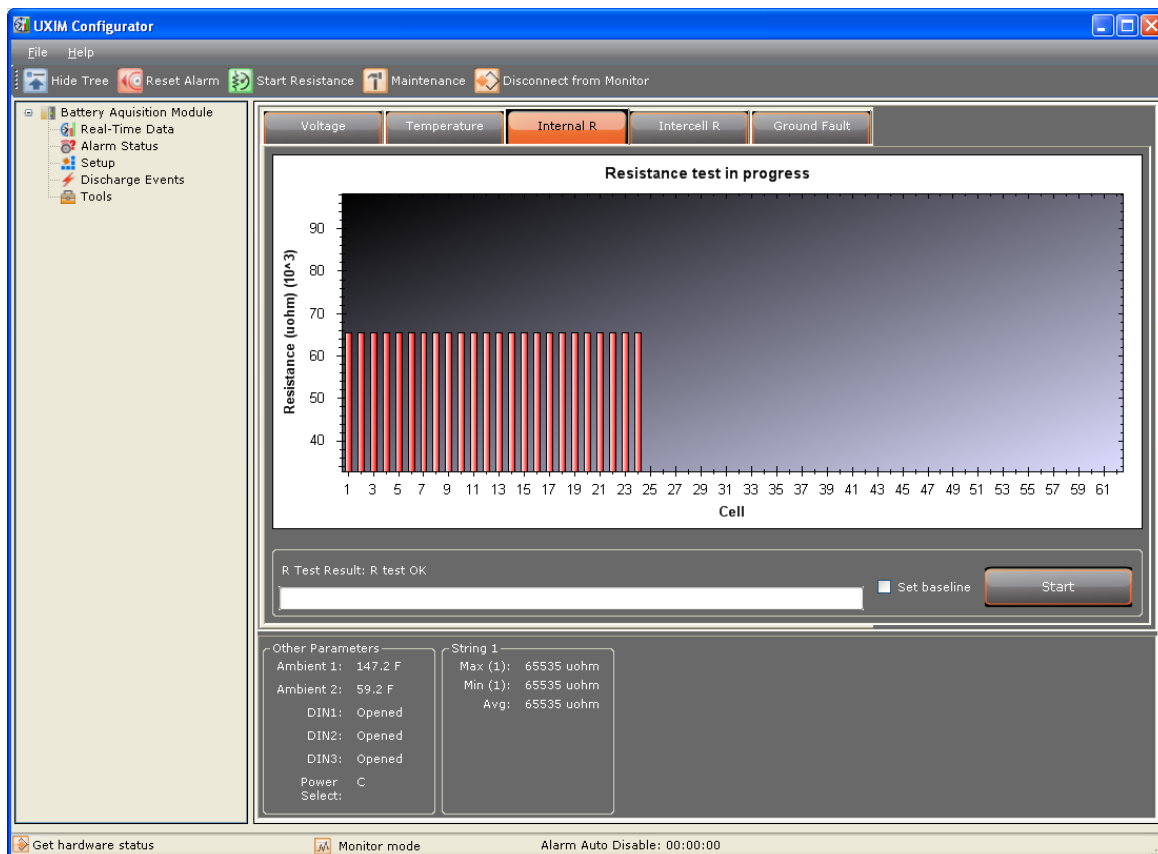


Figure 16 - Cell Internal Resistance

The system shows a progress bar of each cell going through a resistance test and gives the results when the resistance test completes. At the end of the test, a window appears informing you the resistance test for all cells are complete. The system is now ready to verify various parameters.

## 4. Verify System Parameters

This section describes how to verify various system parameters, settings and actions. Note the values, when instructed, in spaces on the Startup Acceptance Report that has been provided to you.

On the real-time data parameter windows, the voltage, temperature, internal resistance and intercell resistance tabs have the following mouse (right-click) short cuts for intuitive viewing options:

- **Copy** - copies the selected image to the clipboard for pasting into another document or spreadsheet.
- **Save Image As** - saves the selected image to a file to open in MS Paint, Photoshop or other image programs.
- **Page Setup** - opens a page setup window to modify the paper size and source, orientation portrait or landscape, margins for left, right, top, and bottom.
- **Print** - opens a print window to select a printer and modify printer properties.
- **Show Point Values** - adds a check mark which turns on the point values as you hover over the cell graphs.
- **Un-Zoom** - undoes any previous zooming or panning and puts the graphics back to the Un-Zoom state.
- **Undo All Zoom/Pan** - brings the data to the starting point of the parameters. To view all measurements from top to bottom use the Set Scale to Default option.
- **Set Scale to Default** - puts the data in a state where you can see the cell parameters from top to bottom of the scale.

**Note:** For a more detailed view of the data, zoom into a particular cell parameter, left click and hold the mouse button and move the mouse over a set of cells or one cell. This allows for zooming into a particular cell. To zoom out of a cell, right-click the mouse and select **Unzoom** or **Undo all Zoom/Pan**. Or use the **Scroll Wheel** on the mouse to zoom in and out of the cell parameters.

## 4.1 Voltage Reading Verification

Two types of voltage readings must be verified. First, at least one cell/monobloc input must be verified to ensure the system is properly calibrated and operating within specifications. Only one input needs to be checked for accuracy and all other inputs should be verified for an actual voltage input. The second reading that must be verified is the Overall Voltage.

To verify the cell/monobloc input:

1. Click the **Real-Time Data** on the navigation tree, then **Voltage** tab.
2. Move the cursor over the **Cell 1** bar (for String 1, if using multiple strings) and enter the value measured in the Acceptance Report in section 5, in the UXIM/UXTM Measured Value space.
3. Using a calibrated voltage meter, measure the same cell and enter the value measured in the Actual Measured Value space.

To verify the Overall Voltage input:

1. Observe the value of the Overall Voltage reading located in the summary section towards the bottom of the screen. Enter the value measured in the UXIM/UXTM Measured Value space for Overall Voltage.
2. Using a calibrated voltage meter, measure the actual overall voltage. Write the value measured in the Actual Measured Value space.

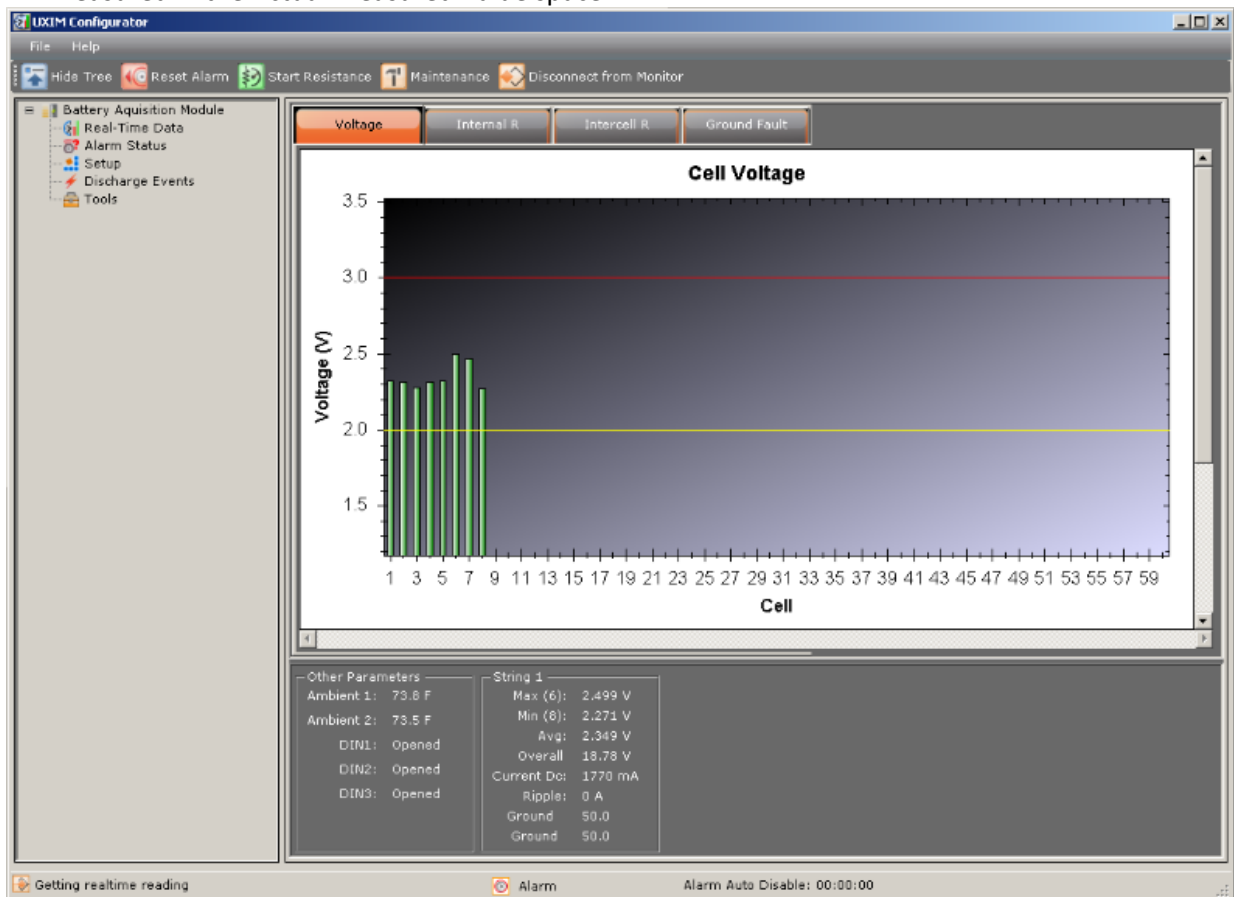


Figure 17 - Real Time Data Cell Voltage

## 4.2 Temperature Reading Verification

Two types of temperature readings must be verified. First, at least one cell/monobloc input must be verified to ensure the system is properly calibrated and operating within specifications. Only one input needs to be checked for accuracy, and all other inputs should be verified for an actual temperature input. The second reading that must be verified is the Ambient Temperature reading.

The cell temperature feature is currently not available for UXIM but is coming soon.

To verify the cell/monobloc input:

1. Click **Real-Time Data** on the navigation tree, then **Temperature** tab.
2. Move the cursor over the Cell 1 bar (for String 1, if using multiple strings). Enter the value measured in the Acceptance Report in the UXIM/UXTM Measured Value space.
3. Using a calibrated temperature meter, thermometer or fluke, measure the same cell. Write the value measured in the Actual Measured Value space.

To verify the Ambient Temperature input:

1. Observe the value of the Ambient Temperature reading located in the Other Parameters summary section towards the bottom of the screen. Write the value measured in the UXIM/UXTM Measured Value space.
2. Using a calibrated temperature meter, thermometer or fluke, measure the actual ambient temperature directly at the ambient temperature sensor. Write the value measured in the Actual Measured Value space.

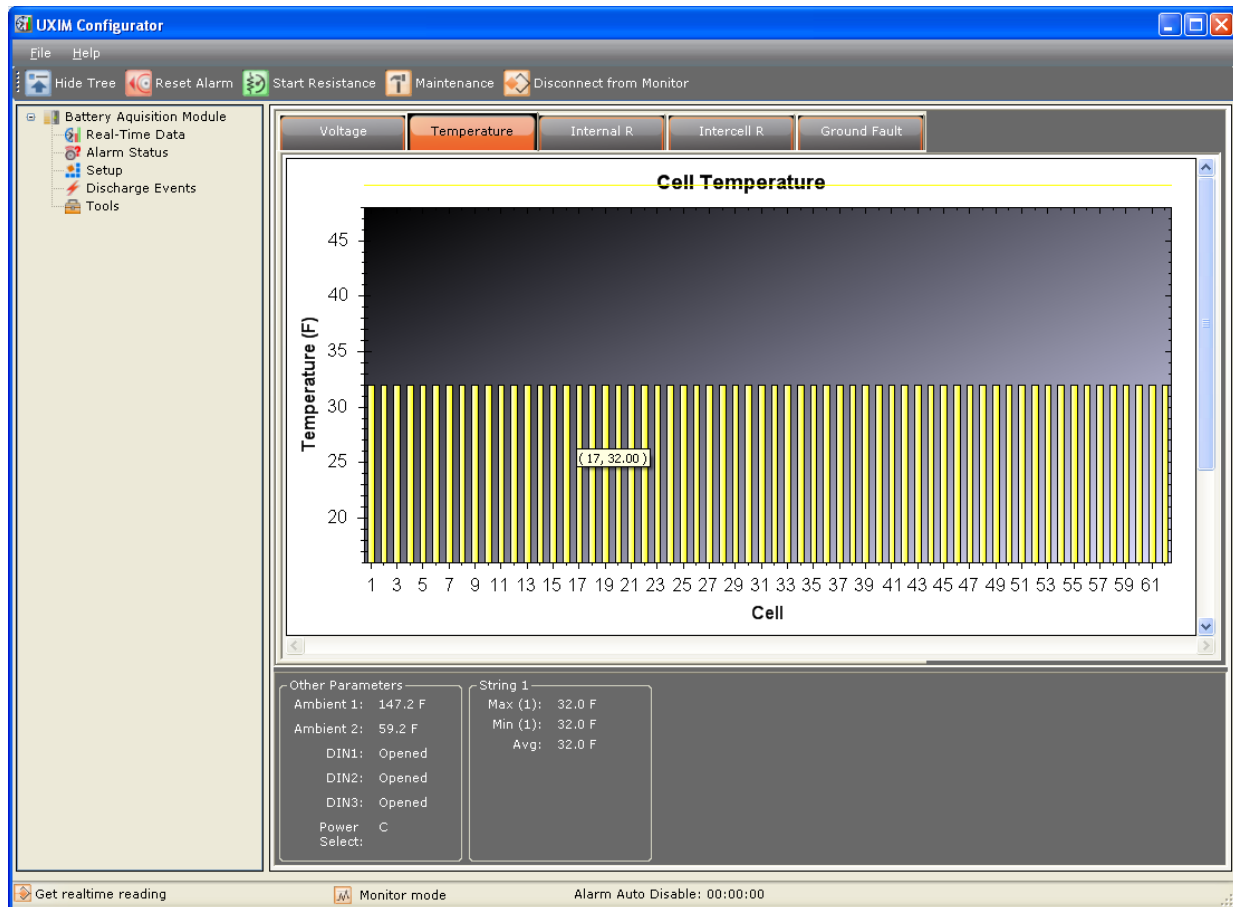


Figure 18 - Real Time Data Cell Temperature

### 4.3 Internal Resistance Reading Verification

An internal resistance test must be performed to verify the resistance readings.

To verify the internal resistance readings:

1. Click **Real-Time Data** on the navigation tree, then **Internal R** tab.
2. Click **Start**.
3. As the test progresses, new readings transfer to the computer for review.
4. Verify all internal cell and intercell resistance readings are correct for the cell or module tested.
5. If any readings are excessively high or low, do a retest and check for crimps in the cables and verify the connections are correct to those cells or modules.
6. Enter the average cell internal resistance reading in the UXIM/UXTM Measured Value column in the Average Internal Resistance space in the Acceptance Report.

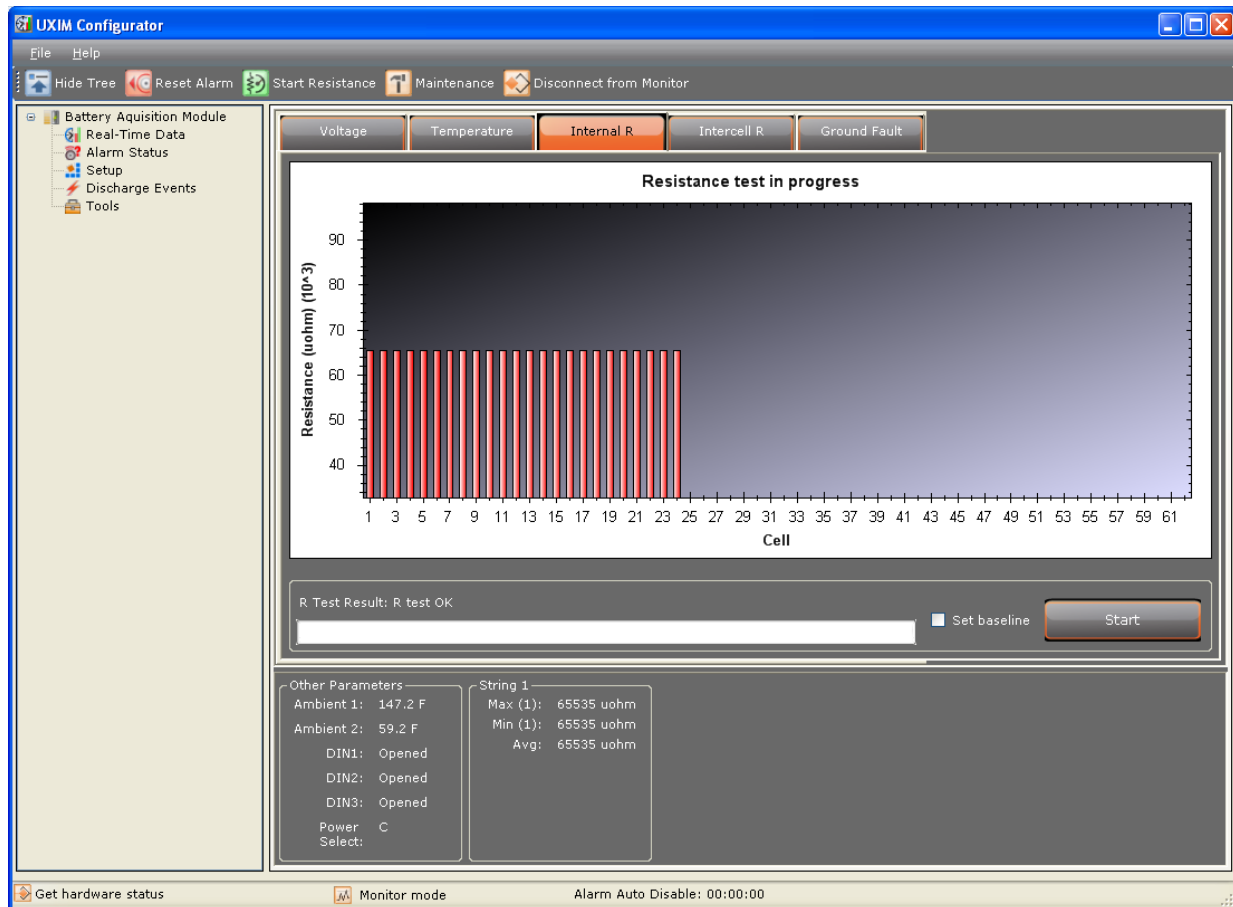


Figure 19 - Real Time Data Internal Resistance

#### 4.4 Intercell Resistance Reading Verification

An intercell resistance test must be performed to verify the intercell resistance readings.

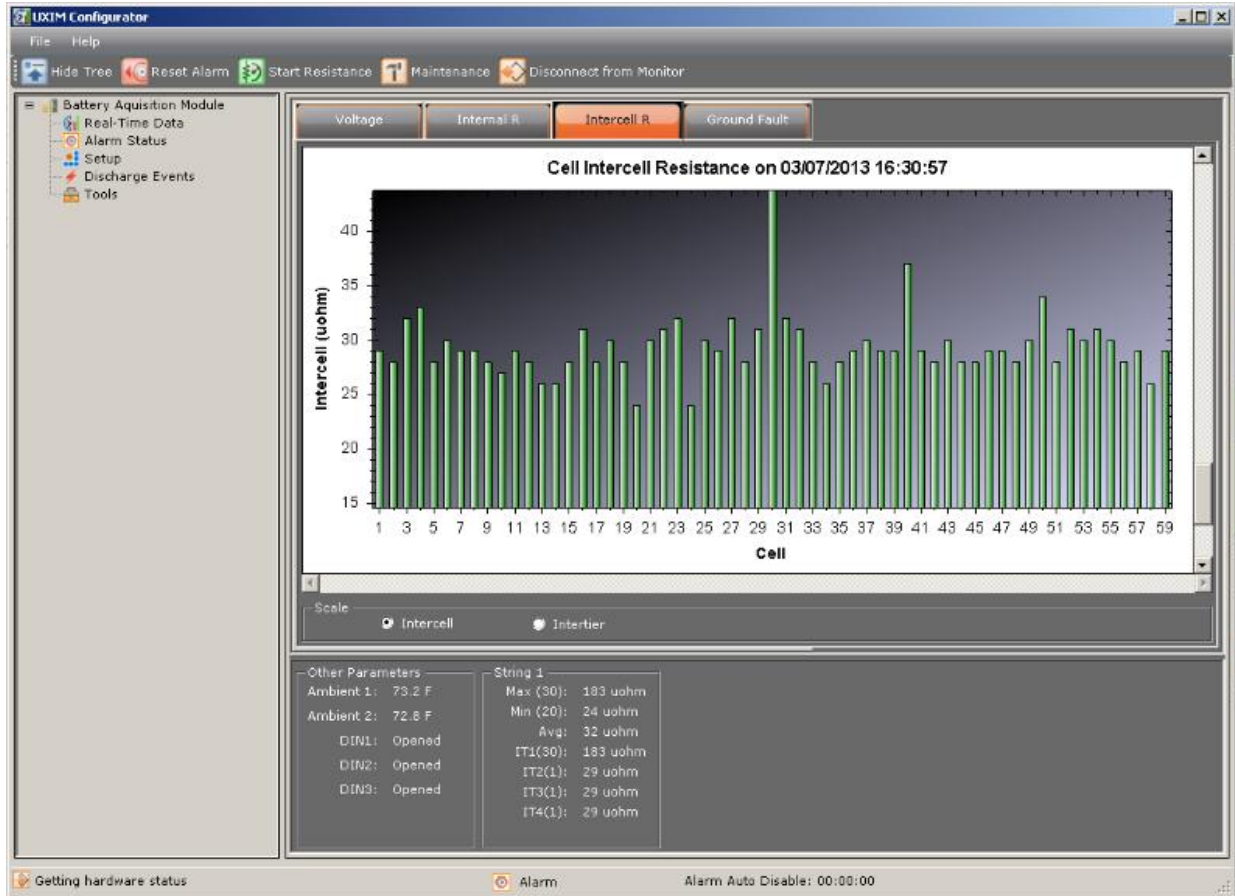
To verify the intercell resistance readings:

1. Click **Real-Time Data** on the navigation tree, then **Intercell R** tab.
2. Click **Start**.
3. As the test progresses, new readings transfer to the computer for review.
4. Verify all intercell resistance readings are correct for the cell or module tested.

**Note:** If any readings are excessively high or low, verify the integrity of the connections to those cells or modules.

5. Enter the average intercell resistance reading in the UXIM/UXTM Measured Value column in the Average Intercell Resistance space in the Acceptance Report.

## Verify System Parameters



**Figure 20 - Real Time Data Intercell Resistance**

**Note:** The Intercell scaling view is the default display. You may toggle between the Intercell and Intertier view. To view the Intertier scaling view select the Intertier radio button. The window will show the Intertier resistance view.



## 4.5 Baseline Resistance Reading Verification

Baseline resistance can be viewed and verified on the Baseline Resistance Readings tab.

To verify the baseline resistance readings:

1. Click **Real-Time Data** on the navigation tree, then **Baseline Resistance** tab.
2. Readings are displayed for your review.
3. Verify all baseline resistance readings are correct for the cell or module being viewed.

**Note:** If any readings are excessively high or low, verify the integrity of the connections to those cells or modules.

4. Enter the average baseline resistance reading in the UXIM/UXTM Measured Value column in the Average Baseline Resistance space in the Acceptance Report.

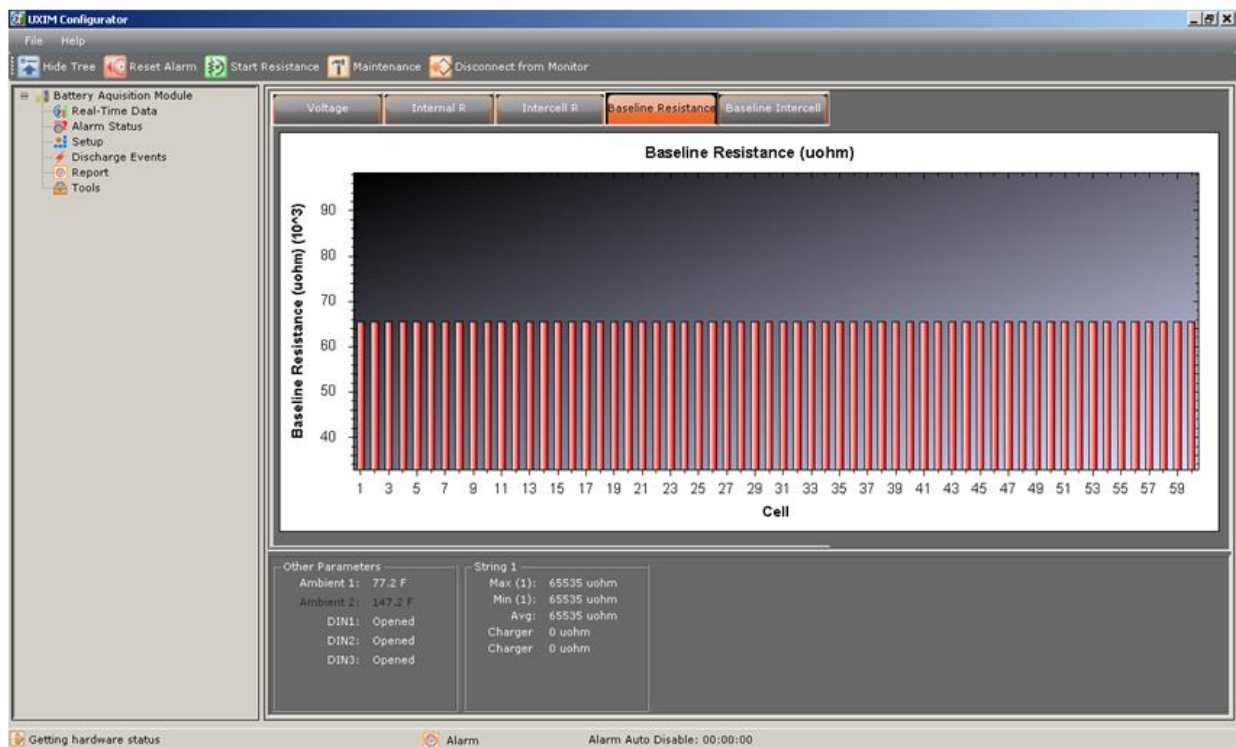


Figure 21 - Real Time Data Baseline Resistance

## 4.6 Baseline Intercell Reading Verification

Baseline intercell can be viewed and verified on the Baseline Intercell readings tab.

To view and verify the baseline intercell readings.

To verify the baseline intercell readings:

1. Click **Real-Time Data** on the navigation tree, then **Baseline Intercell** tab.
2. Readings are displayed for your review.
3. Verify all baseline intercell readings are correct for the cell or module being viewed.  
**Note:** If any readings are excessively high or low, verify the integrity of the connections to those cells or modules.
4. Enter the average baseline intercell reading in the UXIM/UXTM Measured Value column in the Average Baseline Resistance space in the Acceptance Report.

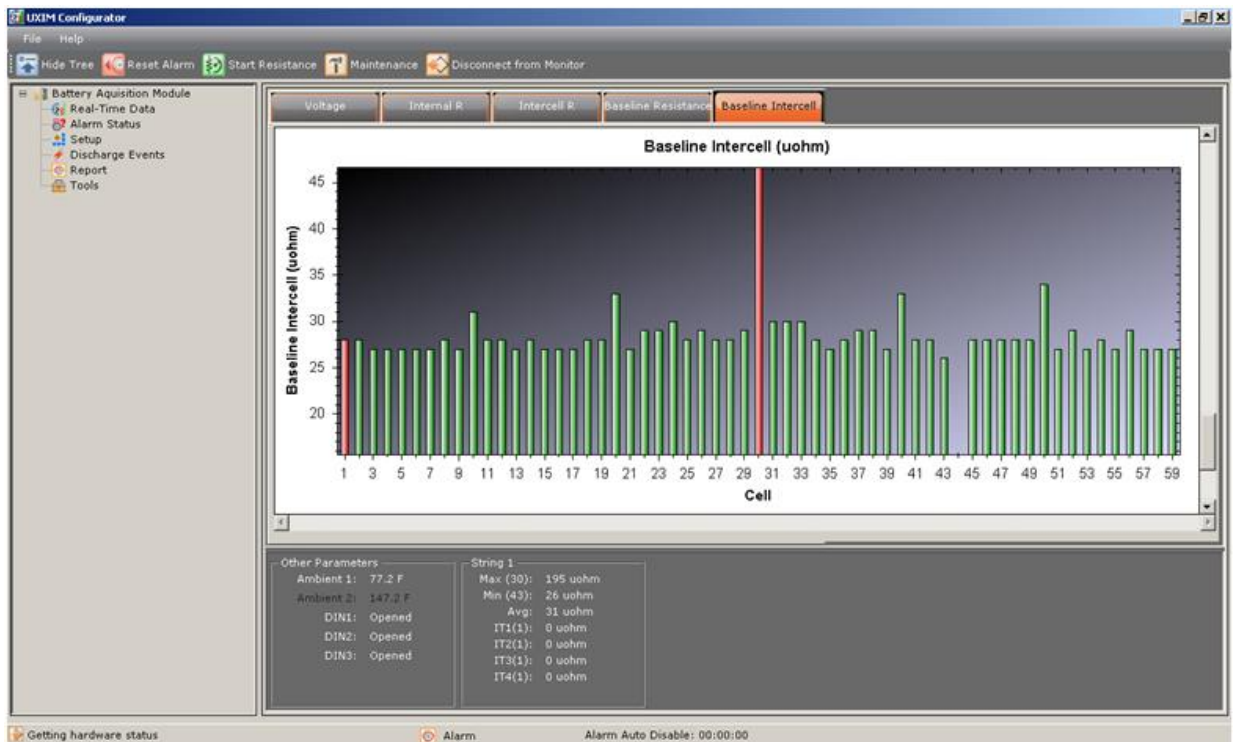


Figure 22 - Real Time Data Baseline Intercell

## 4.7 System Current Reading Verification

Performing this verification may not be possible, depending on the particular installation. This section requires placing a load on the battery for discharge current and inserting an Amp meter in series with the battery to verify float and ripple current.

To verify the float and ripple current:

1. Click **Real-Time** on the navigation tree, then **Voltage** tab.
2. Insert a calibrated AC-DC Amp meter in series with the battery string by temporarily disconnecting an intercell connector and replacing that connection with the meter.
3. Set the meter to read DC Amps and allow the current to stabilize.
4. Observe the Float Current displayed in the summary area at the bottom of the display. Write the value measured in the UXIM/UXTM Measured Value column in the Float Current space.
5. Observe the current the Amp meter is reading. Write the value measured in the Actual Measured Value column in the Float Current space.
6. Set the meter to measure AC Amps.
7. Observe the Ripple Current displayed in the summary area on the display. Write the value measured in the UXIM/UXTM Measured Value column in the Ripple Current space.
8. Observe current the Amp meter is reading. Write the value measured in the Actual Measured Value column in the Ripple Current space.

To verify the string current:

1. Click **Real-Time** on the navigation tree, then **Voltage** tab.
2. Place a calibrated clamp on current probe across one of the interconnect cables within the battery string.
3. Place the string in discharge by placing a load on the battery.
4. Observe current the clamp on meter is reading. Write the value measured in the Actual Measured Value column in the String Current space.
5. Observe the String Current displayed in the summary area on the display. Write the value measured in the UXIM/UXTM Measured Value column in the String Current space.

## 4.8 Digital Input Verification

Digital inputs are optional measured parameters and may not be installed. To verify the digital inputs, the state of the inputs must be changed by either simulating the state or causing the sensor to change state under real conditions.

To verify the digital inputs:

1. Click **Real-Time** on the navigation tree, then **Voltage** tab.
2. Observe the state of the digital inputs.
3. Change the state of these inputs either by simulating or causing the sensor to change state. Verify the screen shows the change of state.

## 4.9 Alarm Relay Contact Verification

There is a diagnostic tool that permits testing of the alarm relay by activating it under controlled circumstances.

To verify the alarm relay contact:

1. Click **Tools** on the navigation tree, the **General** tab appears as the default. The serial number, model number, application version, bootloader version and PCB Revision are view only for verification.
2. After all the above information is entered, click **Activate Alarm Contacts**. To de-activate alarm contact click the **De-activate Alarm** button.
3. Verify the contact closure changes state by activating the alarm within the building management system.

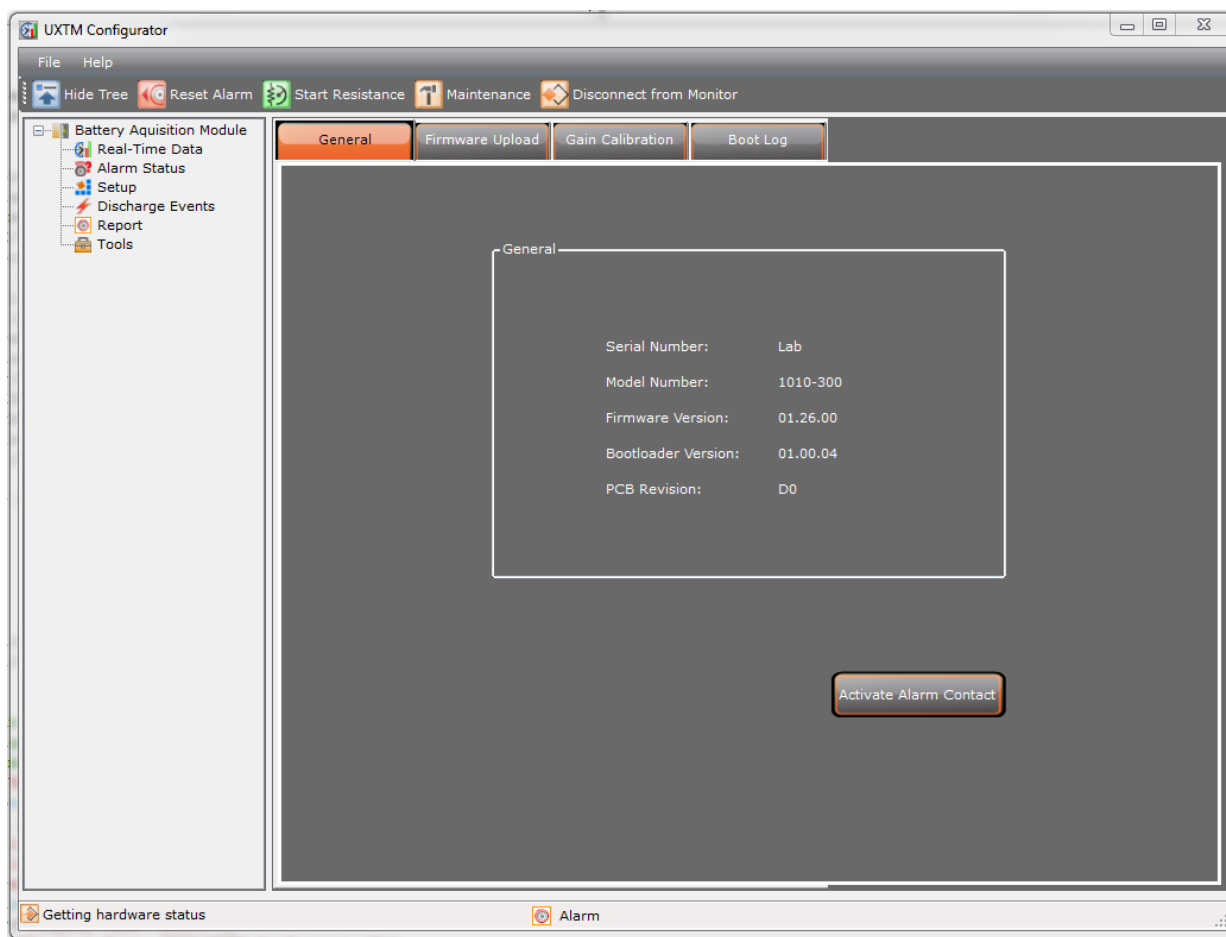


Figure 23 - Tools General UXIM/UXTM Information

For additional information, refer the Startup Acceptance Report section 5, for details on the UXIM/UXTM.

### 4.10 RS-485 Communication Verification on a UXIM

Verification of RS-485 communication is confirmed by having valid communication with a remote controller designed to work with the UXIM. The default baud rate is 9600. If intermittent communications occur, a termination jumper must be installed on pins one and two.

There is a jumper on the circuit board for selecting a termination resistor for the RS-485 connection. The RS-485 termination is enabled when the jumper is across Pins 1 and 2 (default), and is disabled when the jumper is not on Pins 1 and 2. See Figure 24 - RS-485 Jumper Location.

By default, these jumpers are installed and therefore must be removed on units connected previous to the last unit on the bus if multiple units are connected together.

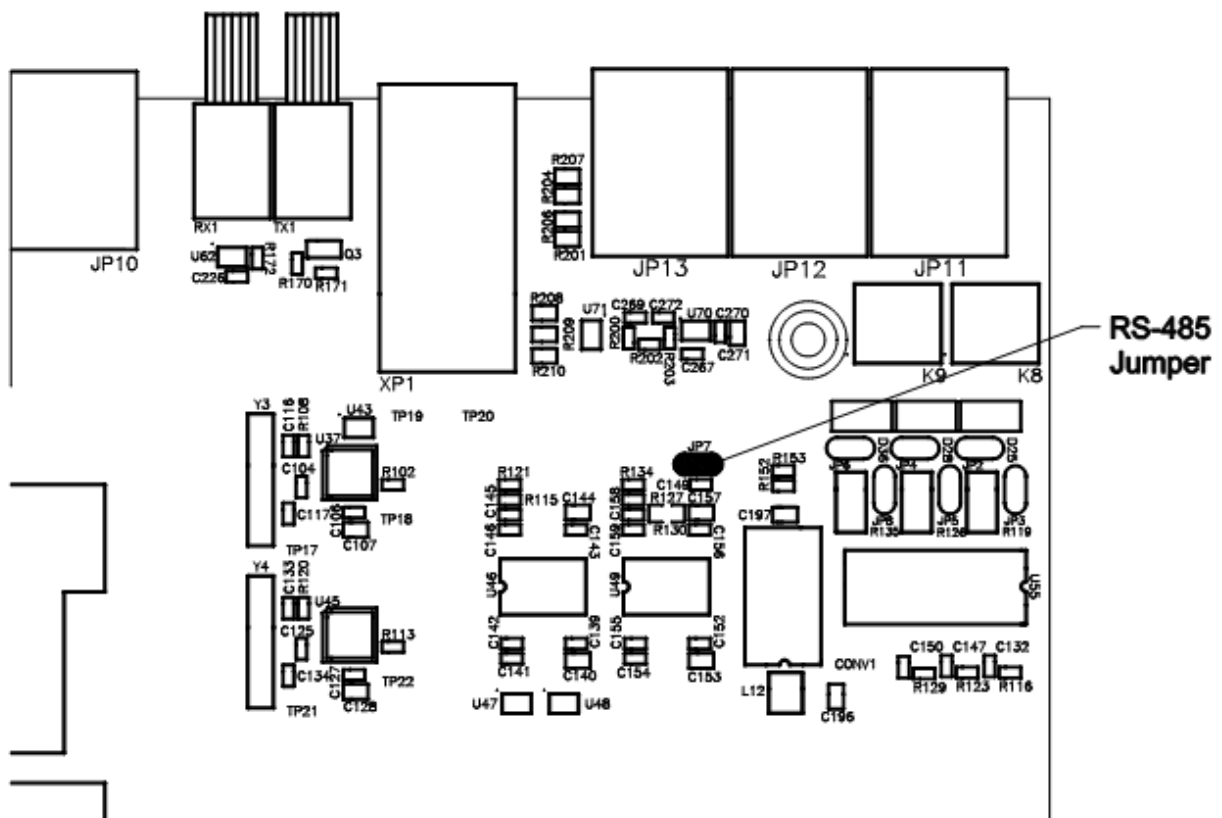


Figure 24 - RS-485 Jumper Location on a UXIM



### 4.13 Viewing the UXIM/UXTM Hardware Status

The status bar at the bottom of the screen allows you to click on the Maintenance mode icon and a view window opens showing the hardware status such as good, active, inactive total number of discharges and alarms on the UXIM/UXTM Configurator.

**Note:** The Hardware Status window is for view only.

To view this, click the **Maintenance mode** icon and the hardware status window appears.

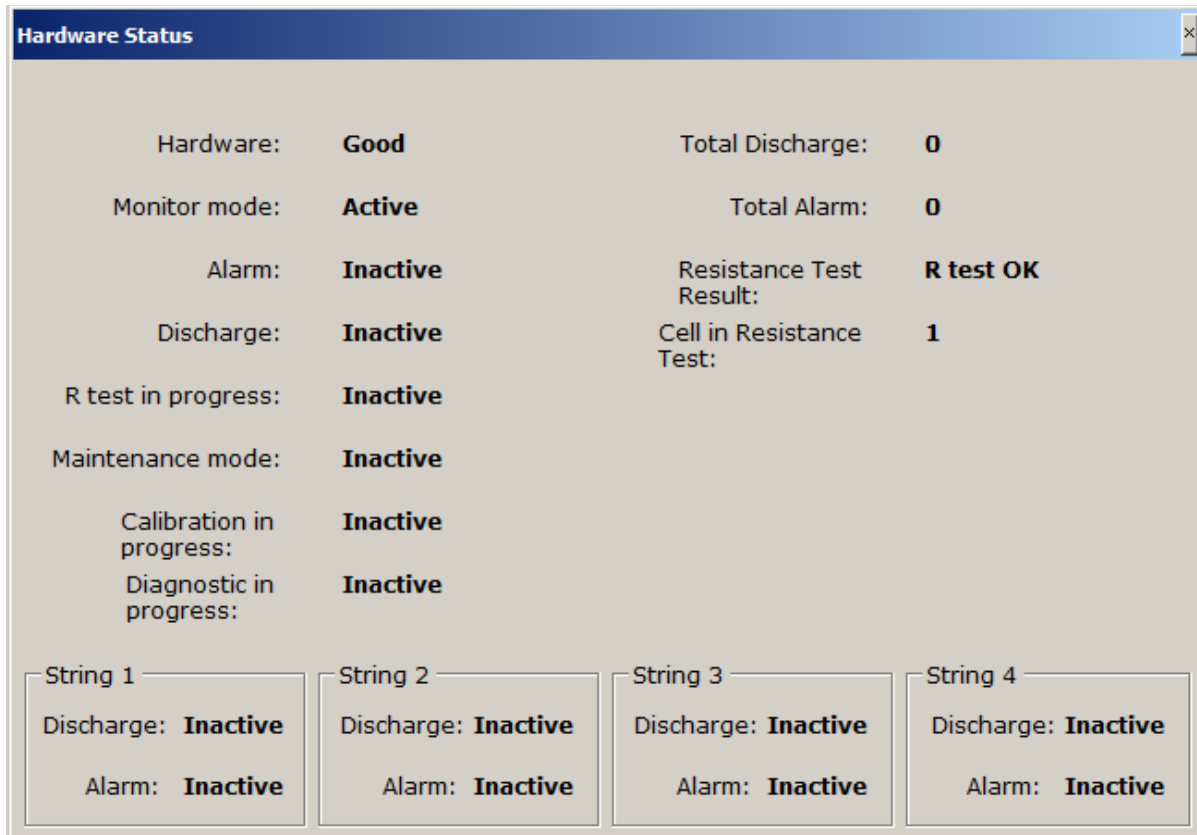


Figure 26 - Hardware Status Viewer for UXIM/UXTM

#### 4.14 Viewing the UXIM/UXTM Alarm Status

The status bar at the bottom of the screen allows you to click on the Alarm Auto Disable icon and a view window opens showing the alarm status such as enabled, disabled, and the time it took to disable the discharge and resistance alarms on the UXIM/UXTM Configurator.

**Note:** The Alarm Enable/Disable Status window is for view only.

To view this, click the **Alarm Auto Disable** icon and the Alarm Enable/Disable Status window appears.

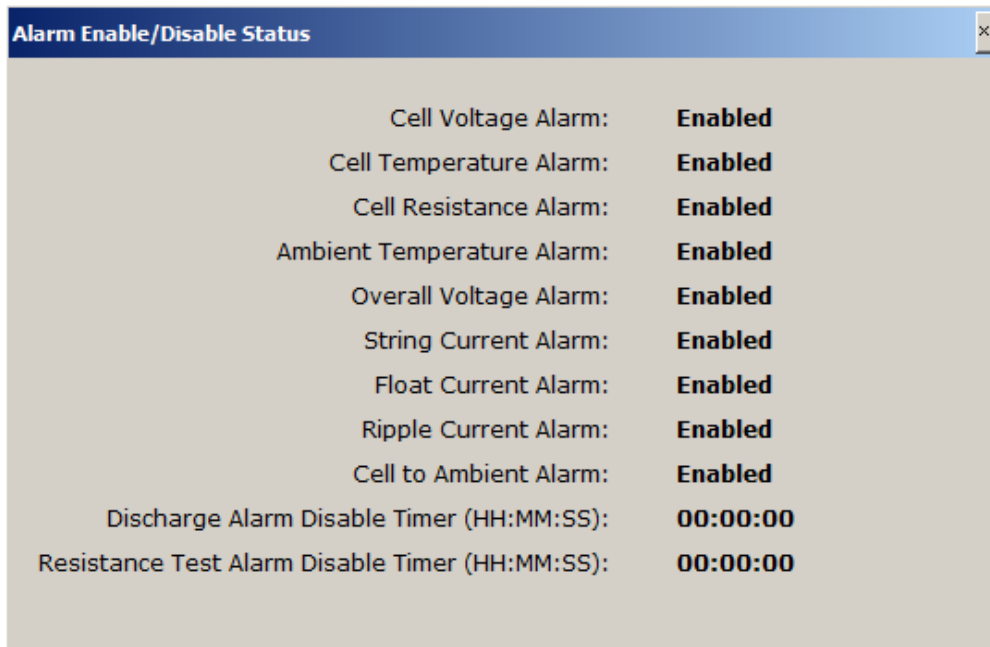


Figure 27 - Alarm Status Viewer for UXIM/UXTM



## 5. Viewing Discharge Events

### 5.1 Discharge Events for UXIM/UXTM

Discharge events allows you to view the string that is in discharge, it also allows you to view the status of the start and end time of the discharge, lowest over all voltage, highest string current and end ambient temperature.

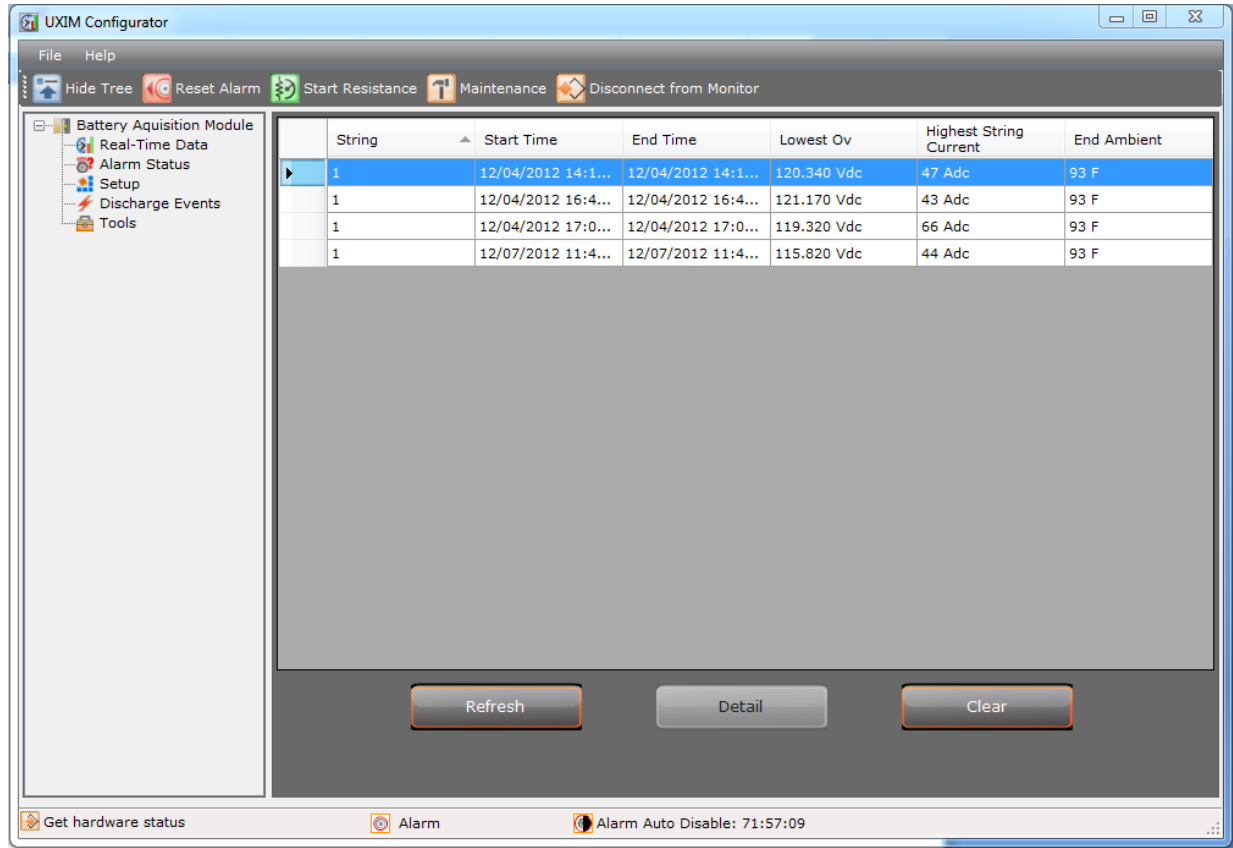


Figure 28 - Discharge Events Viewer for UXIM/UXTM

During a discharge, the Discharge Events window shows discharge records for the following:

- **String** – shows the number of the string in discharge
- **Start time** – time the discharge was started on the string in hours, minutes and seconds
- **End Time** – time the discharge ended on the string in hours, minutes and seconds
- **Lowest Ov** – lowest over all voltage on the string in volts
- **Highest String Current** – highest string current located on the string
- **End Ambient** – the degree of ambient temperature at the end of the discharge

To view the detail of a string discharge, click **Detail**. The Discharge Details window appears showing a Cell Voltage Discharge graph with the voltage and cell number.

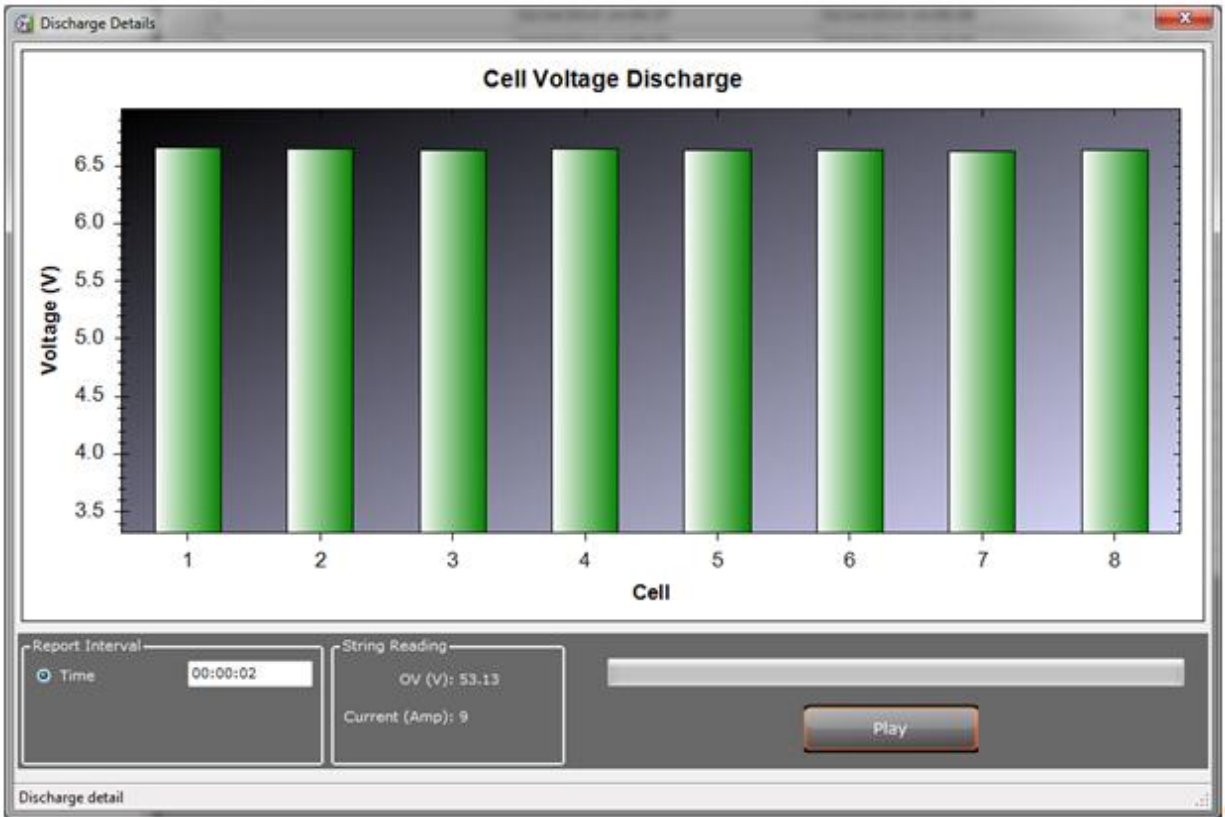


Figure 29 - Cell Voltage Discharge Details Viewer for UXIM/UXTM

- The Report Interval can be modified by time.
- String reading shows the overall voltage.
- Current amps shows the amperages per string.

Click **Play** to view the cell voltage discharge. To stop the cell voltage discharge viewer click **Stop**.

To close the Cell Voltage Discharge window, click the X in the top right corner.

## 6. Startup Acceptance Report

To complete the UXIM/UXTM 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.

UXIM/UXTM 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

UXIM/UXTM Startup Acceptance Report, Page 2 of 2						
Parameter	Actual Measured Value	UXIM/UXTM 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: \_\_\_\_\_

## 7. Navigating through the UXIM/UXTM Monitor Application

The UXIM/UXTM monitoring system uses several views that provide intuitive utilization of the monitor application. From the UXIM/UXTM main menu, a user can access the following:

- Disconnect from Monitor
- Preference
- UXIM/UXTM Configurator Help text
- Exit
- Help
- Documents/Online/About

The Dynamic toolbar allows for quick access to select the following:

- Show and Hide Tree
- Start/Stop resistance
- Disconnect from Monitor
- Reset alarm
- Monitor

Other features include:

- Real-time data, alarm status, setup, discharge events and tools are accessible by clicking on items in the system navigation pane.
- Graphical real time data appears to show important information at a glance.
- Tabs allow for one click access to panels that allow for battery information, such as:
  - Cell Voltage
  - Cell Temperature
  - Internal Resistance
  - Intercell Resistance
  - General
  - Thresholds
  - Network
  - Firmware Upload
  - Gain Calibration
  - Site Information
  - Boot Log

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

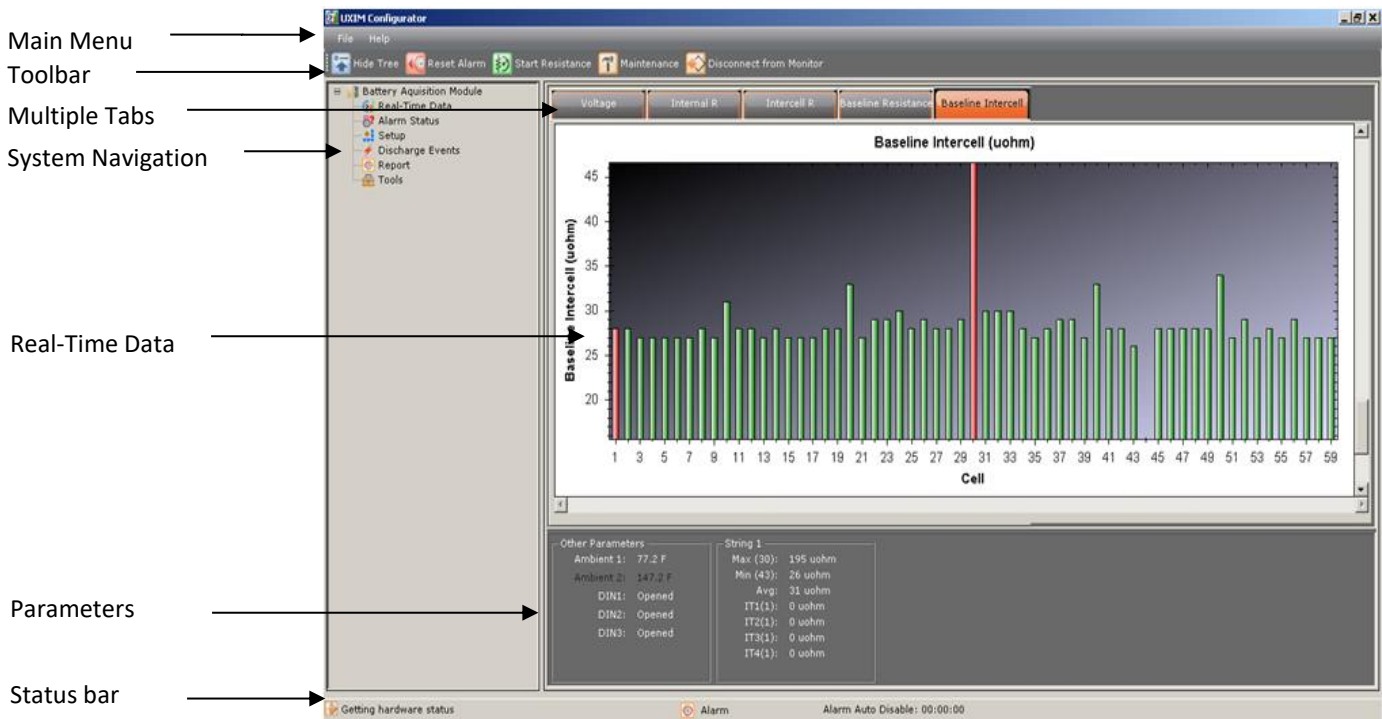









Figure 30 - UXIM/UXTM Main Window Navigation Description

## 8. Navigation Icons










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

Icon	Description of Icon
 UXIM/UXTM Configurator	Represents that the UXIM/UXTM Configurator application is running.
 Battery Acquisition Module	Represents the top icon level where all the information is stored.
 Real-time Data	Display of battery data real-time. Data will be shown as graphical bar charts and tabular data.
 Alarm Status	Represents the current alarm event status.
 Setup	Represents where the parameters that can be configured.
 Discharge Events	Represents where the discharge events are stored and saved.
 Tools	Represents tools that are used for graph scaling, discharge events, and analysis events.

**Table 4 - Navigation Icon Descriptions**

## 9. Application Toolbar Icons

The following icons are located on the toolbar and indicate what changes can be done to the application.

Icon	Description of Icon
 Hide tree	Represents that the UXIM/UXTM Configurator navigation tree is off.
 Display tree	Represents that the UXIM/UXTM Configurator navigation tree is on.
 Reset Alarm	Resets any active alarms.
 Start Resistance	Represents where to activate/start resistance test.
 Stop Resistance	Represents where to deactivate/stop Resistance test.
 Mode - Maintenance	To place the system in standby/maintenance mode. All alarms are currently disabled. <b>Note:</b> While in maintenance mode the device LEDs will be blinking amber.
 Mode - Monitor	To place the system in normal scan/monitor mode. All parameters are currently monitored against preset thresholds.
 Connect	Allows software to connect to physically connected hardware.
 Disconnect from Monitor	Allows software to disconnect hardware.

**Table 5 - Application Toolbar Icon Descriptions**

## 10. Status Bar Icons

The following icons inform you what the status of the system is currently set to:









Icon	Description of Icon
 Connecting to hardware	Indication of PC is attempting connection to hardware.
 Hardware connected	Indication that PC is successfully connected to hardware.
 Not connected to hardware	Indication that PC could not connect to hardware.
 Maintenance mode	Indicate device is in maintenance mode. <b>Note:</b> While in maintenance mode the device LEDs will be blinking amber.
 Normal mode	Indicate device is in normal monitor mode.
 Active Alarm	Indicate device has an active alarm.
 Discharge in Progress	Indicates when batteries are in discharge.
 Alarms Auto Partial Disabled	Indicates when partial alarms are disabled.

Table 6 - Status Bar Icon Descriptions

## 11. Preference Communication Icon

The following icon informs you that the system is in communication mode.


Icon	Description of Icon
 Communication Port	Connection to monitor - preference connection type

Table 7 - Preference Communication Icon Description



## 12. Using the UXIM/UXTM Help Text

To get information on how to use the UXIM/UXTM monitoring system, use the help text provided in the UXIM/UXTM application. The help text can be accessed from the main menu by clicking **Help** then **UXIM/UXTM Help**. Or Press **F1** from any specific window for context-sensitive help text. The UXIM/UXTM 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.

## 13. Using the UXIM/UXTM Documentation

To get information on the UXIM/UXTM monitoring system, the following documentation is available, product information, installation information and getting started using the UXIM/UXTM monitoring system, use the documentation provided in the UXIM/UXTM application. The documentation can be accessed from the main menu by clicking **Help** then **Documents**. The UXIM/UXTM 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 UXIM/UXTM monitoring system.
- Installation Manual provides information on safety information, preventative maintenance, system overview, system installation, materials needed, hardware configuration, installation considerations, mounting options, and UXIM/UXTM device installations.
- Getting Started Guide explains how to verify setup and use the UXIM/UXTM monitoring system. The Guide also provides detailed information on using the features and gives an overview of navigating through the UXIM/UXTM application.