

# Alber™ Universal Xplorer Industrial Monitor (UXIME)



## Quick Installation Guide

This guide provides instructions for initial installation and configuration of your Vertiv Alber UXIME battery monitoring system. For extended installation instructions, a comprehensive view of the system, and additional details on operating the hardware and software components, reference the installation guide, product description guide and web user interface guides available at [www.vertiv.com/alberuxime](http://www.vertiv.com/alberuxime).

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

### Pre-installation requirements

The following tools are required:

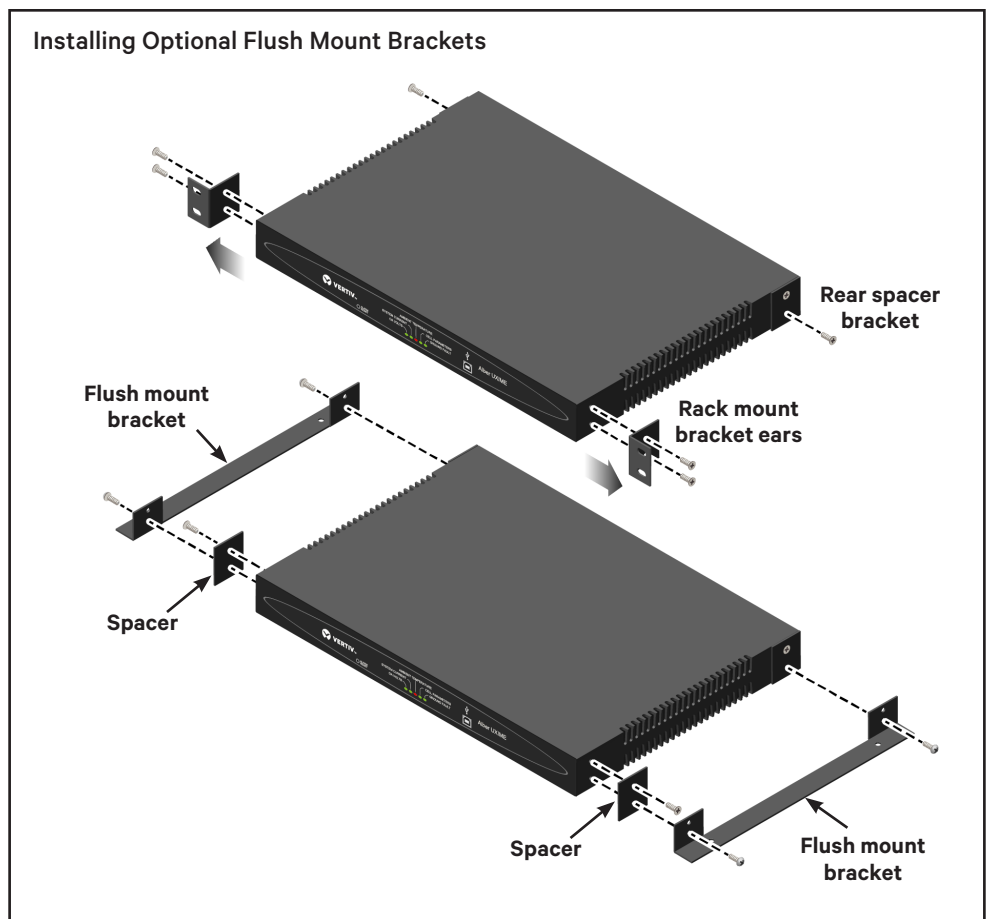
- Standard hand/wire tools including cutters, screwdrivers, strippers, and a drill if the unit is wall-mounted.
- Clamp-on current meter/multimeter, Fluke 336 or equivalent.
- Panduit crimper
- Laptop/computer

Complete the following steps prior to installation:

- Consider the placement of the system components so they may be easily serviced if necessary.

**CAUTION:** The equipment is convection cooled and no cooling fans are used, so ensure the equipment has adequate ventilation to prevent overheating.

- Ensure the equipment is not enclosed in another cabinet without proper ventilation in order to maintain proper operating temperature.
- Ensure that the equipment ports and openings are not blocked and that the equipment can operate within its specified temperature and humidity ranges.
- Check the distance between the battery string, battery charger and the battery monitor units. The distance to all battery string and



charger connection points cannot exceed the length of the wiring harness.

- Isolate the battery string.

**IMPORTANT:** Never attempt installation on a battery string that is in service and not fully isolated from the DC bus and load circuits.

### System installation

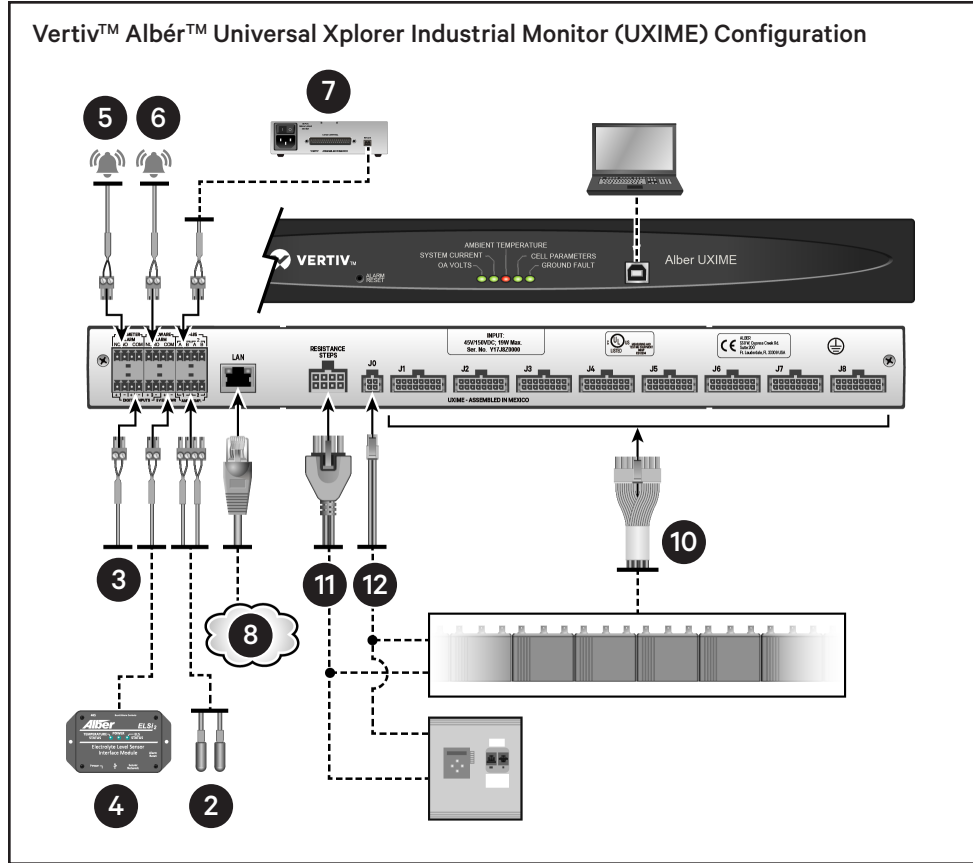
#### 1. Mounting the Vertiv Alber UXIME battery monitor

##### RACK MOUNT

- a. Use the appropriate hardware to attach the pre-installed rack mounting bracket ears to 19" cabinet rack uprights.

##### FLUSH MOUNT (OPTIONAL)

- a. Remove the two screws that secure the pre-installed rack mount bracket ears to the unit on each side.
- b. Install the supplied front spacer brackets on each side using the top mounting hole and one of the flathead screws you removed in the previous step.
- c. Remove the lower flat head screw from the already installed rear spacer bracket.
- d. Locate the pan head screws provided with the rack-mounting kit and use them to secure the flush mount bracket through the bracket spacer and to the unit in the bottom mounting holes in the front and rear of the unit on each side.



### 5. Connecting a parameter alarm

This port has three connections:

- NC (normally closed)
- NO (normally open)
- COM (common)

Connection can be made directly to the facility's alarm reporting system. If multiple units are used, then these contacts can be connected in series or parallel, depending on the requirements for the facility's wiring of NC (normally closed) or NO (normally open).

### 6. Connecting a hardware alarm

This port has three connections:

- NC (normally closed)
- NO (normally open)
- COM (common)

The normally open (NO) contact is active after the battery monitor successfully powers up, and then stays in this state during normal operation. The relay changes state and the normally closed (NC) contact becomes active during any of the following fault conditions:

- Power fault
- Application code fault accompanied by an unsuccessful recovery
- MLM (load module) failed

Connection can be made directly to the facility's alarm reporting system. If multiple units are used, then these contacts can be connected in series or parallel, depending on the requirements for the facility's wiring of NC (normally closed) or NO (normally open).

### 7. Connecting the RS-485 communication cable

Verify RS-485 communication is wired correctly and matches the port requirements. The battery monitor factory setting maximum baud rate is 19200 (default is 9600).

Verify the unit is properly secured in the mounted location and cabling is secured to prevent any inadvertent disconnections.

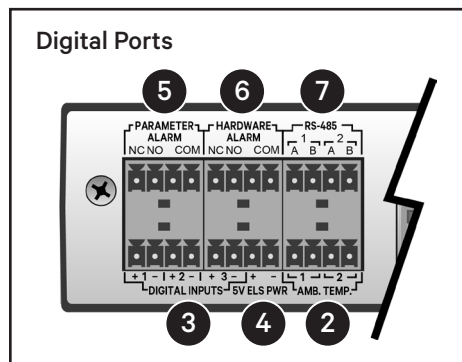
### 2. Connecting the ambient temperature sensor

Connect the ambient temperature sensor and ensure it is appropriately placed to monitor ambient room temperature.

### 3. Connecting digital inputs

Verify digital inputs are properly wired according to sensor requirements for voltage source or contact closure. Match the port requirements; the port is factory-configured to be a dry contact.

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



For details on reconfiguring digital inputs, see the Vertiv Alber Universal Xplorer Industrial Monitor (UXIME) Battery Monitor Installation Guide for modes and digital input jumper positions.

### 4. Connecting to an ELSi2

ELSi2 Power connections are made to the +5VDC connection using the optional harness. Connect from the 5V ELS PWR port to the POWER jack on the ELSi2.

If intermittent communication is experienced and the baud rate must be lowered, see the Vertiv Alber Universal Xplorer Industrial Monitor (UXIME) Battery Monitor Installation Guide for more information.

### 8. Connecting to a network

From an existing network, connect a network cable to the LAN port on the rear of the battery monitor unit.

### 9. Prepping connection points on the battery string

Every cell/jar of the battery string should be prepped for connection to the battery monitor unit.

Tab washers, affixed to battery posts, allow connection of the monitoring system to the battery string. Standard tab washers accommodate 5/16" hardware. The tab washer location and quantity depend on the system configuration.

For connection point locations on your system, please refer to the appropriate configuration drawing that shipped with your battery monitor unit or visit [www.vertiv.com/alberuxime](http://www.vertiv.com/alberuxime) and refer to the drawings available in the Documents and Downloads section.

If your battery configuration has more complex mechanical connections, correct connection point locations are listed in the Vertiv Alber Universal Xplorer Industrial Monitor (UXIME) Battery Monitor Installation Guide within the information on systems with dual/multiple positive and negative posts.

### 10. Connecting the voltage sense lead harness

The factory-provided voltage sense lead harnesses that come with each battery monitor unit consist of eight solid-colored wires and eight white wires with a colored stripe.

These harness wires will be connected to the tab washers installed in step 9.

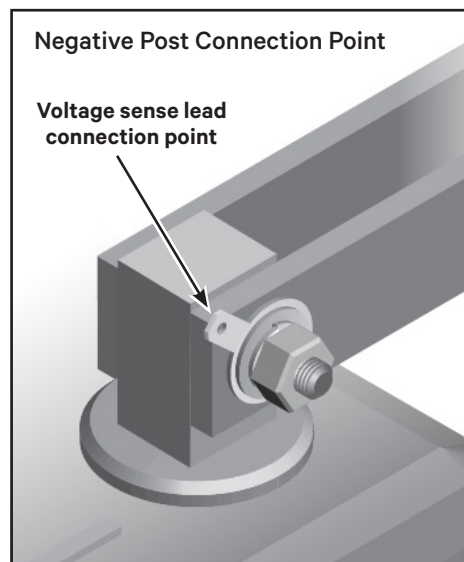
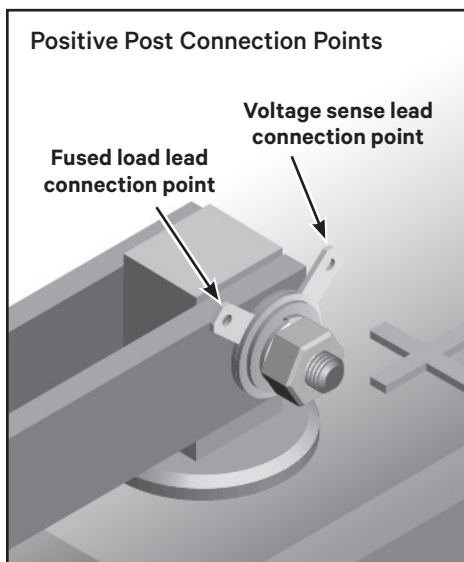
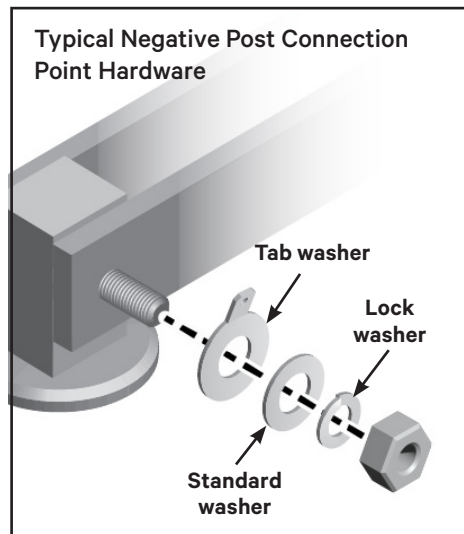
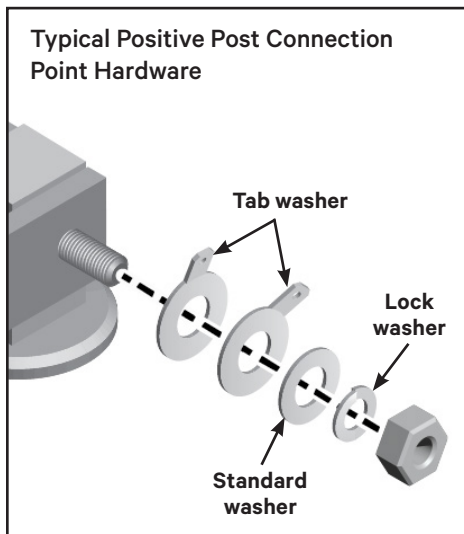
Out-of-the-box, the harness wires are all the same length and must be custom cut to span the distance between the battery monitor unit and their individual tab washer connection points on the battery string.

Each voltage sense lead wire must have one of the factory-provided 10KΩ 0.1% flameproof resistor sense lead assemblies spliced to the wire end.

**CAUTION:** During installation, do not connect the voltage sense lead harness plugs into the battery monitor unit until instructed to do so in step 14.

- a. Use your applicable configuration drawing as a guide for determining the connection point wire color. Route and then cut each wire to a length that reaches its individual battery post connection point.

**NOTE:** Wires terminating on a positive post are a solid color. Wires terminating on a negative post are white with a colored stripe.



**NOTE:** Never coil the wires. Harness wires should be cut to length while maintaining a nominal amount of slack. Failure to cut the wires to the correct length may result in inaccurate readings.

- b. Strip the insulation approximately 1/4" from the end of the wire.
- c. Place the stripped wire end into the butt-splice of one of the provided 10KΩ 0.1% resistor sense lead assemblies.
- d. Use a Panduit crimper to securely fasten the assembly to the end of the sense lead wire.
- e. Connect the completed voltage sense lead assembly to its battery post-connection point tab washer.

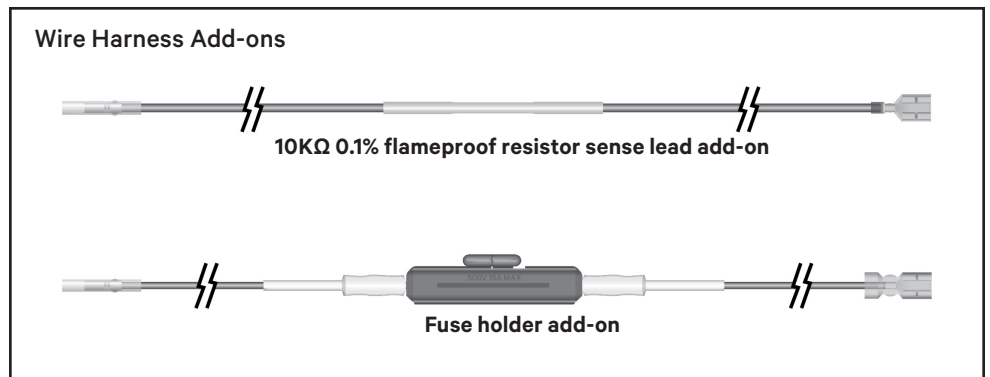
**CAUTION:** On a positive post with two tab washers, connect the sense lead wire to the tab washer farthest from the post.

### 11. Connecting the fused load lead harness

The factory-provided fused load lead harness that comes with each battery monitor unit consists of seven color-coded load wires to distinguish each resistance load step for proper termination at the battery or battery charger. Out-of-the-box, harness wires are the same length and must be custom cut to span the distance between the battery monitor and their individual connection points on the battery string or battery charger.

**CAUTION:** During installation, do not connect the fused load lead harness plug into the battery monitor unit until instructed to do so in step 14.

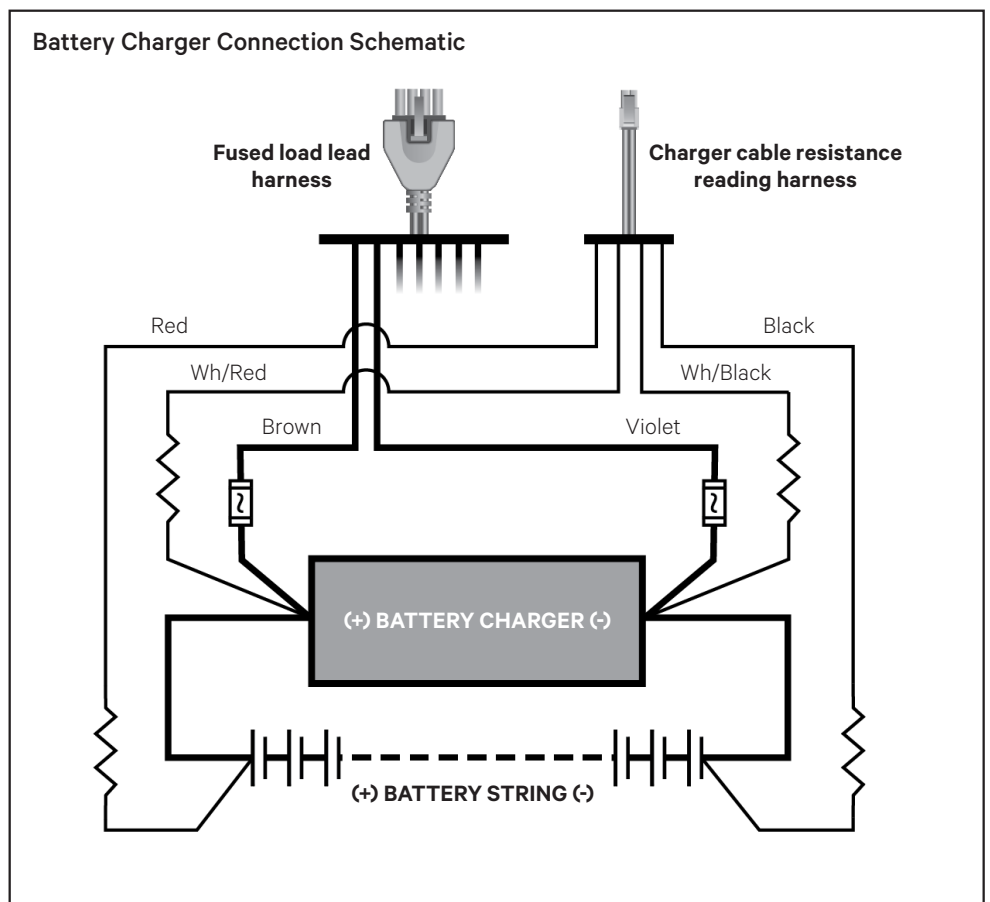
- a. Use your applicable configuration drawing as a guide for determining the connection point wire color in your configuration. Route and



cut each wire to a length that reaches its individual battery charger or battery string post connection point.

**NOTE:** Never coil the wires. Harness wires should be cut to length while maintaining a nominal amount of slack. Failure to cut wires to the correct length may result in inaccurate readings.

- b. Strip the insulation approximately 1/4" from the end of the wire.
- c. Place the stripped wire end into the butt-splice of one of the factory-provided fuse holder assemblies.
- d. Use a Panduit crimper to securely fasten the assembly to the end of the load lead wire.



**CAUTION:** Before connecting to the battery string or battery charger, verify the fuses are not installed in the load lead fuse holders. Do not install the fuses until the time that the entire system is commissioned.

**NOTE:** When a load lead wire connects to the same point as a voltage sense lead, the load lead wire must be attached to the tab washer closest to the cell's post.

**NOTE:** When connecting to the charger bus, it may be required to replace the load lead's faston terminal with a ring terminal to complete connection to the bus.

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

- e. Connect the completed load lead assembly to its battery string post or battery charger connection point.

## 12. Connecting the charger cable resistance reading harness

The factory-provided charger cable resistance reading harness that comes with each battery monitor unit consists of four color-coded wires to distinguish each for proper termination at the battery string or battery charger. Out-of-the-box, harness wires are the same length and must be custom cut to span the distance between the battery monitor and their individual connection points on the battery string or battery charger.

**CAUTION:** During installation, do not connect the charger cable resistance reading harness plug into the battery monitor unit until instructed to do so in step 14.

- a. Use your applicable configuration drawing as a guide for determining the connection point wire color in your

configuration. Determine the routing path and length required to reach the connection points on the battery string or battery charger and cut to length.

- b. Strip the insulation approximately 1/4" from the end of the wire.

**NOTE:** Each of the charger cable resistance reading harness wires must have one of the factory provided 10KΩ 0.1% flameproof resistor sense lead assemblies spliced to the wire end.

When connecting to the charger bus, it may be required to replace the 10K resistor lead's faston terminal with a ring terminal to complete connection to the bus.

- c. Place the stripped wire end into the butt-splice of one of the provided 10KΩ 0.1% resistor sense lead assembly as you did when constructing a sense lead wire.
- d. Use a Panduit crimper to securely fasten the assembly to the end of the charger cable resistance reading harness wire.

**NOTE:** When connecting to the charger bus, it may be required to replace the 10K resistor lead's

faston terminal with a ring terminal to complete connection to the bus.

- e. Connect the completed charger cable resistance reading harness wire assembly to its battery string or battery charger connection point.

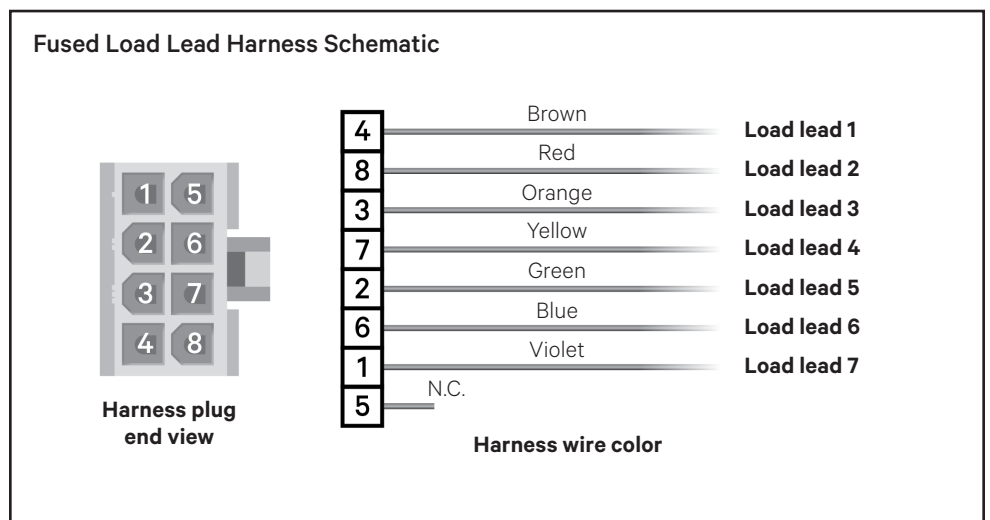
## 13. Checking the load cable voltage measurement approximate values

Before completing the battery monitor installation, the current voltage of the battery string should be documented for use as a baseline. Use the following steps to verify the current load cable voltage measurement values.

**WARNING:** High voltage may exist on the load cables.

**CAUTION:** Verify the terminal pins inside the disconnected harness connector plug cannot short to each other or to any surface.

- a. Install the load cable fuses.
- b. Connect the DMM (digital multimeter) positive (+) lead to terminal pin in the connector plug for load cable number 1.
- c. Connect the DMM negative (-) lead to terminal pin in the connector plug for load cable number 2.





- d. Record the DMM reading for comparison to the entries in the Load Lead 1-2 column of the Load Cable Voltage Measurement Approximate Values for Battery Connections table.
- e. While leaving the positive (+) lead connected to the terminal pin for load cable number 1, remove the DMM negative (-) lead from the terminal pin for load cable number 2 and connect it to the terminal pin in the connector plug for load cable number 3.
- f. Record the DMM reading for comparison to the entries in the Load Lead 1-3 column of the Load Cable Voltage Measurement Approximate Values for Battery Connections table.
- g. Continue measuring between load cable number 1 to the remaining load cables until all load cable voltages are verified.
- h. After all voltages are verified, remove the DMM leads.

#### 14. Powering up the system and verifying the installation

To power up the system, connect the voltage sense lead harness plugs, the fused load lead harness plug and the charger cable resistance reading harness plug into their respective ports on the rear of the battery monitor unit.

The battery monitor unit uses the battery string current for power. No power supplies or outlets are needed.

The LEDs will begin to scan in a repeated pattern once the system boots.

**NOTE:** In the battery monitor unit, the normally open (NO) contact of the hardware alarm relay becomes active after successful boot up and stays in this state during normal

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
1x24x2V	12V	24V	36V	48V	N/C	N/C
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
1x20x6V	24V	48V	72V	96V	120V	N/C
1x10x12V	24V	48V	72V	96V	120V	N/C

operation. The relay changes state and the normally closed (NC) contact becomes active during a firmware upgrade or any of the following fault conditions:

- Power fault
- Application code fault accompanied by an unsuccessful recovery
- MLM (load module) failed

#### 15. Installing the Vertiv Alber UXIME Configurator application software

- a. Visit [www.vertiv.com/alberuxime](http://www.vertiv.com/alberuxime) and select the *Documents & Downloads* tab.
- b. Click *Software Download* in the Software section to navigate to the software download web page.
- c. Select the latest version of the Configurator file available in the Software Downloads column.
- d. Click *Configurator* to download the zip file, then browse and select the setup.exe file. The InstallShield Wizard launches.
- e. Follow the prompts in the InstallShield Wizard by clicking *Next*. The Destination Folder window appears for you to change the installation to a different folder if you wish. Click *Change* to choose another

folder, or click *Next* to continue the installation.

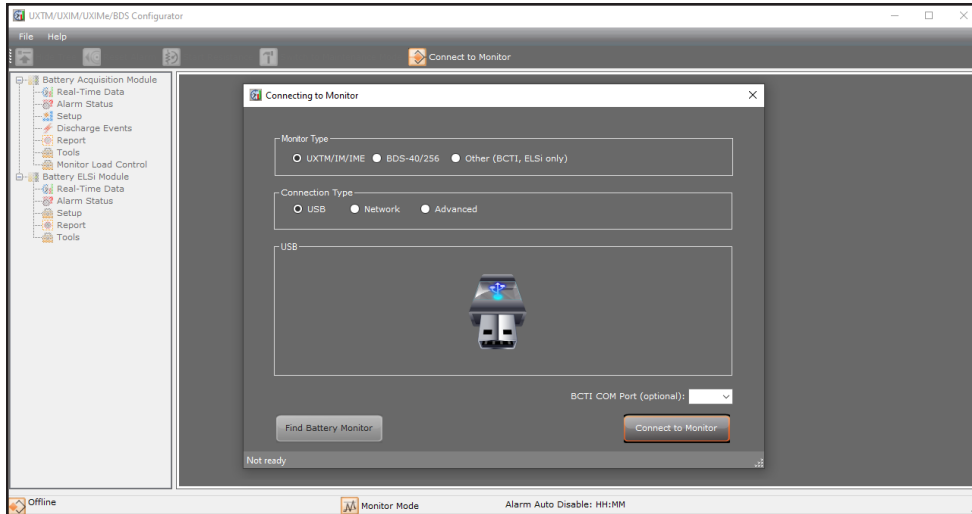
- f. The Ready to Install the program window appears. Click *Install* to continue the installation. A progress window appears to provide the installation status.
- g. When installation is complete, the InstallShield Wizard Completed window appears. Click *Finish* to complete the process.
- h. Browse to and open the Configurator application folder installed on your computer.
- i. Double-click the *UXIME monitor* icon. The main window appears.
- j. Click the *Connect to Monitor* icon. The Connecting to Monitor window appears.

#### Selecting a connection type

In the Connection Type area of the Connect to Monitor window, click one of the connection type options; *USB*, *Network*, or *Advanced*.

#### USB OPTION

This option has the computer containing the Configurator application connecting directly into a specific Vertiv Alber UXIME local battery monitor system.



**NOTE:** For this option to be selectable, a USB cable must connect the computer with the Configurator application to the USB port on the front of the battery monitor.

- a. In the Connection Type area of the Connect to Monitor window, click *USB*.
- b. Select *Connect to Monitor*. The monitor connects to the Configurator application and opens the Cell Voltage window.

### NETWORK OPTION

This option searches across the network to find all the available Vertiv Alber battery monitors connected to the network.

- a. 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.
- b. Select an available battery monitor for connection.
- c. Select *Connect to Monitor*. The monitor connects to the Configurator application and opens the Cell Voltage window.

### ADVANCED OPTION

This option provides access to a Monitor Address Book containing battery monitor names and IP Addresses that you compile.

- a. In the Connection Type area, click *Advanced*.
- b. Select a specific Name/IP Address from the Monitor dropdown list.

**NOTE:** Battery monitors can be added or edited in the Monitor Address Book of the File Menu.

- c. Click *Connect to Monitor*; the Cell voltage window appears.

After the software connects to the battery monitor unit, a Connected Status icon will appear in the lower-left corner of the program screen.

When the connection is successful, the batteries can be monitored using the Vertiv Alber UXIME application.

To set up parameters, alarms, automatic data collection, data analysis, and report generation, see the Vertiv Alber Universal Xplorer Industrial Monitor (UXIME) Battery Monitor Installation Guide.



**To contact Vertiv Technical Support: visit [www.Vertiv.com](http://www.Vertiv.com)**

© 2024 Vertiv Group Corp. All rights reserved. Vertiv™ and the Vertiv logo are trademarks or registered trademarks of Vertiv Group Corp. All other names and logos referred to are trade names, trademarks or registered trademarks of their respective owners. While every precaution has been taken to ensure accuracy and completeness here, Vertiv Group Corp. assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions.

