



NetSure™ +24V Battery Tray Kit – 23”

Installation Manual

Specification Number: 588810200SK001

The information contained in this document is subject to change without notice and may not be suitable for all applications. While every precaution has been taken to ensure the accuracy and completeness of this document, Vertiv assumes no responsibility and disclaims all liability for damages resulting from use of this information or for any errors or omissions. Refer to other local practices or building codes as applicable for the correct methods, tools, and materials to be used in performing procedures not specifically described in this document.

The products covered by this instruction manual are manufactured and/or sold by Vertiv. This document is the property of Vertiv and contains confidential and proprietary information owned by Vertiv. Any copying, use or disclosure of it without the written permission of Vertiv is strictly prohibited.

Names of companies and products are trademarks or registered trademarks of the respective companies. Any questions regarding usage of trademark names should be directed to the original manufacturer.

Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit <https://www.vertiv.com/en-us/support/> for additional assistance.

TABLE OF CONTENTS

Admonishments Used in this Document	iv
Important Safety Instructions	v
Safety Admonishments Definitions.....	v
Safety and Regulatory Statements.....	v
Déclarations de Sécurité et de Réglementation.....	v
1 Description	1
2 Installation Procedures	2
2.1 Mounting the Battery Tray.....	2
2.2 Installing the Circuit Breakers	3
3 Installing and Connecting Batteries in the Battery Tray	4
3.1 Important Safety Instructions.....	4
3.2 Wiring to the Battery Tray	4
3.3 Installing and Connecting Batteries.....	5
4 Alarm Jumper Routing	8

Admonishments Used in this Document



DANGER! Warns of a hazard the reader *will* be exposed to that will *likely* result in death or serious injury if not avoided. (ANSI, OSHA)



WARNING! Warns of a potential hazard the reader *may* be exposed to that *could* result in death or serious injury if not avoided. This admonition is not used for situations that pose a risk only to equipment, software, data, or service. (ANSI)



CAUTION! Warns of a potential hazard the reader *may* be exposed to that *could* result in minor or moderate injury if not avoided. (ANSI, OSHA) This admonition is not used for situations that pose a risk only to equipment, data, or service, even if such use appears to be permitted in some of the applicable standards. (OSHA)



ALERT! Alerts the reader to an action that *must be avoided* in order to protect equipment, software, data, or service. (ISO)



ALERT! Alerts the reader to an action that *must be performed* in order to prevent equipment damage, software corruption, data loss, or service interruption. (ISO)



FIRE SAFETY! Informs the reader of fire safety information, reminders, precautions, or policies, or of the locations of fire-fighting and fire-safety equipment. (ISO)



SAFETY! Informs the reader of general safety information, reminders, precautions, or policies not related to a particular source of hazard or to fire safety. (ISO, ANSI, OSHA)

Important Safety Instructions

Safety Admonishments Definitions

Definitions of the safety admonishments used in this document are listed under “Admonishments Used in this Document” on page iv.

Safety and Regulatory Statements

Refer to Section 4154 (provided with your customer documentation) for Safety and Regulatory Statements.

Déclarations de Sécurité et de Réglementation

Reportez-vous à la Section 4154 (fourni avec les documents de votre client) pour les déclarations de sécurité et de réglementation.

This page intentionally left blank.

1 Description

This document provides installation practice for the 588810200SK001 Battery Tray Kit.

The Vertiv™ NetSure™ +24V Battery Tray Kit, part number 588810200SK001, provides a 22" deep battery tray for 23" wide relay rack. The battery tray holds four (4) 12V front terminal valve regulated lead acid (VRLA) batteries. Battery cabling is provided and shall be connected to the system's main battery busbars. Batteries are configured as two (2) 24V strings per tray.

It is advisable that the procedure be conducted with the power plant shut down (all AC circuits to the rectifiers turned off and battery disconnected). If this is not possible, extra care must be taken due to working with live DC power.

The materials included with the kit are listed here:

<u>Qty.</u>	<u>Part No.</u>	<u>Description</u>
1	58881020011	Battery Tray, 23" Mount, 21" Depth
2	256695900	Circuit Breaker, 1-100Amp 80VDC
4	245350005	Crimp Lug
1.33ft	182778000	Heat Shrink Tubing
1	528500	1-Pole Battery Disconnect Breaker Kit (Right)
1	528501	1-Pole Battery Disconnect Breaker Kit (Left)
2	528234	Kit, Battery lugs, 2AWG, 90deg, Short Tongue
2	528236	Kit, Battery lugs, 2AWG, 90deg, Long Tongue
2	528498	Bracket, Battery Tray Mounting
2	362736700	Bracket, Cable
2	528155	2GA Lug and Cable Kit
2	524384	Jumper for Battery Disconnect Breaker Alarm

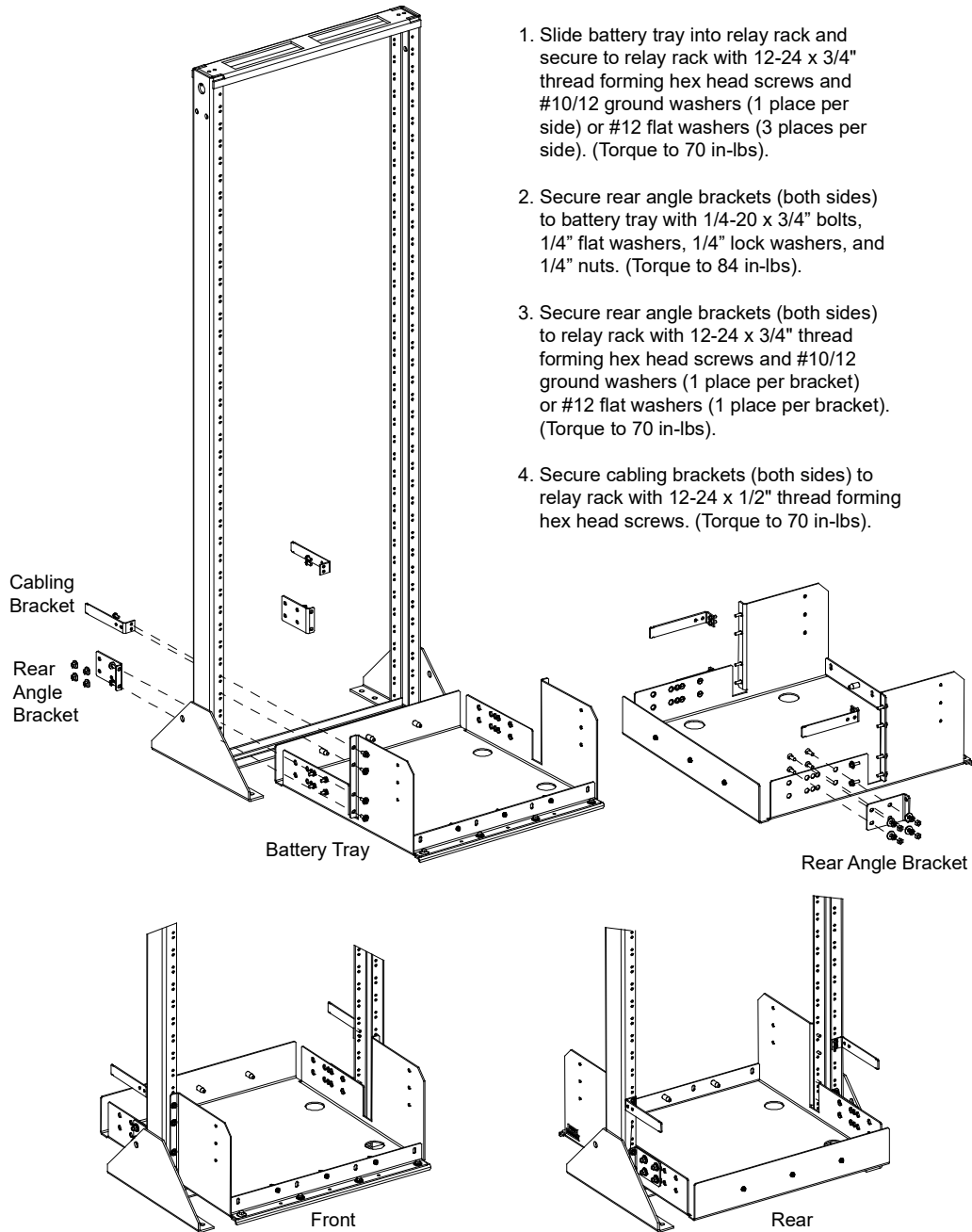
2 Installation Procedures

2.1 Mounting the Battery Tray

Procedure

1. To install a Battery Tray, perform the procedure in **Figure 2.1**.

Figure 2.1 Mounting and Securing the 588810200SK001 Battery Tray onto the Rack

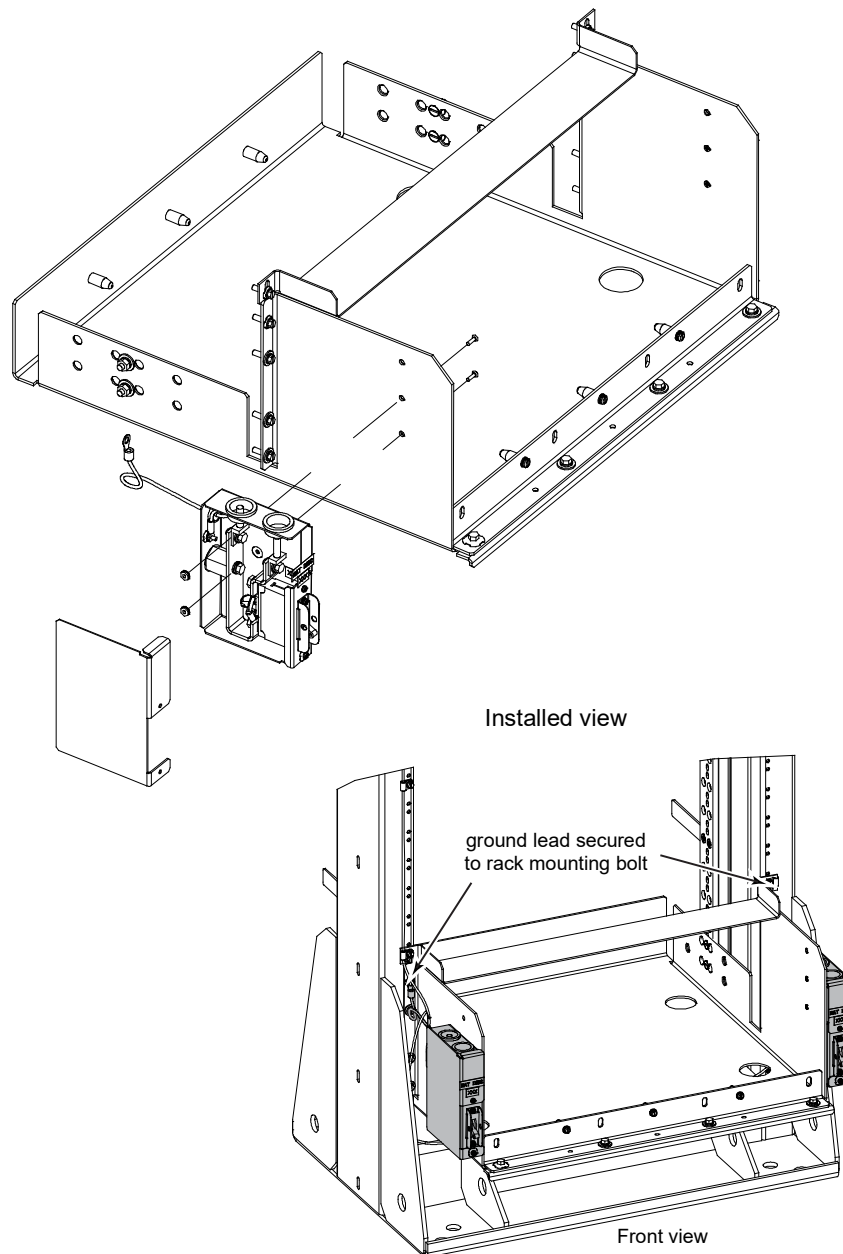


2.2 Installing the Circuit Breakers

Procedure

1. Remove the cover from the battery disconnect circuit breaker assembly. Secure the battery disconnect circuit breaker assembly to the battery tray using 6-32 x 1/2" screws and 6-32 KEPS nuts (2-places).
2. Secure the ground lead under a battery tray relay rack mounting bolt. After wiring to the battery disconnect circuit breaker, replace the cover.
3. Repeat for the other side of the battery tray.

Figure 2.2 Installing Circuit Breakers on Battery Tray



3 Installing and Connecting Batteries in the Battery Tray

3.1 Important Safety Instructions



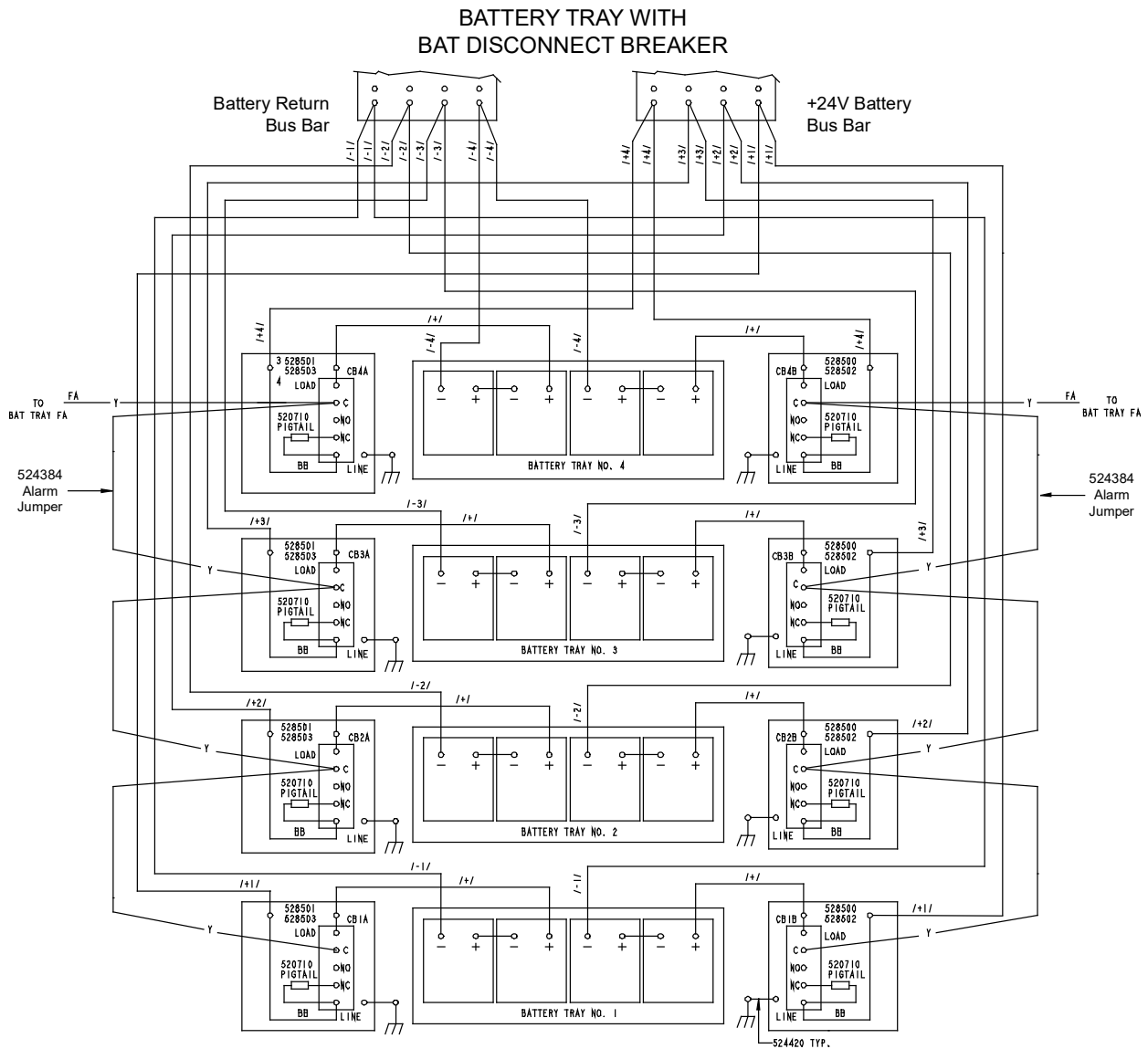
DANGER! Adhere to the “Important Safety Instructions” presented at the front of this document.

3.2 Wiring to the Battery Tray

Procedure

1. Refer to the wiring diagram provided in **Figure 3.1** and wire the battery tray for your application.
2. Lace the cables to the cable lacing brackets mounted on the rear of the relay rack.

Figure 3.1 Wiring Diagram - Battery Tray



3.3 Installing and Connecting Batteries

Procedure



NOTE! Refer to **Figure 3.2** as this procedure is performed.

1. **If Battery Trays are Equipped With Circuit Breakers:** Turn OFF the Battery Disconnect circuit breakers located on all battery trays. Refer to **Figure 3.2** for locations.
2. Remove the battery retention bracket as shown in **Figure 3.2**. To do so, remove the four 1/4-20 x 5/8" bolts and associated washers.
3. Slide batteries into the tray, with the battery terminals toward the front as shown in **Figure 3.2**. Slide batteries into the tray as far as they will go.



NOTE! The battery retention bracket can be oriented two ways to accommodate batteries of different lengths. A correctly oriented bracket will fit snugly against the batteries. If your batteries require the alternate bracket orientation shown in Detail A of **Figure 3.2** remove and reinstall the bullet-shaped spacers as shown in Detail A before performing the next step.

4. Reinstall the battery retention bracket. The spacers on the bracket should separate the batteries from each other. Secure with the hardware removed in a previous step. Refer to **Figure 3.2** for washer location.
5. Connect two links supplied by the battery manufacturer between pairs of battery terminals as shown in **Figure 3.2**. Use hardware furnished by the battery manufacturer. Torque hardware to battery manufacturer's recommendations.
6. Ensure the battery cable ends in all trays are insulated with sleeving before performing the next step.



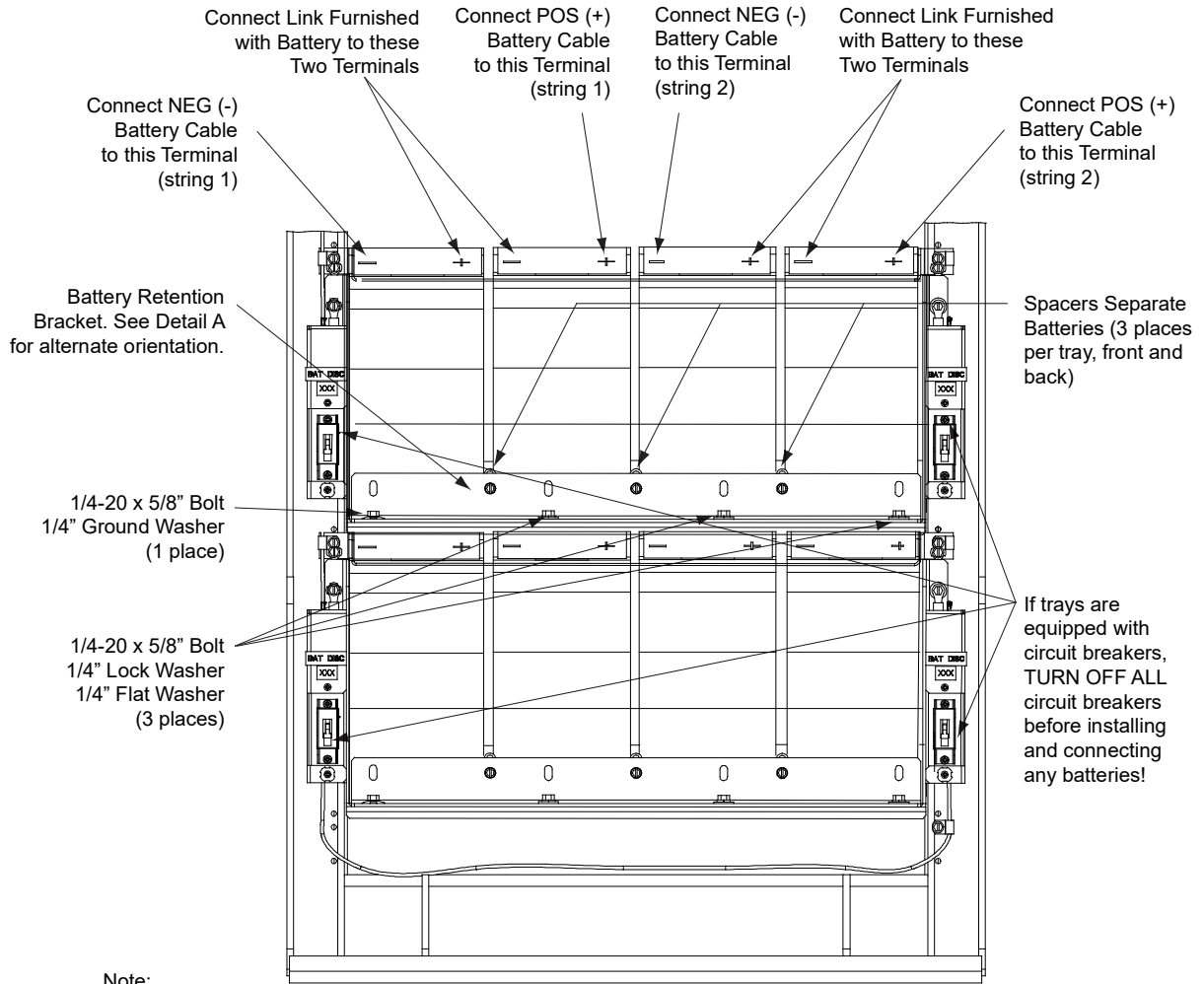
DANGER! In multiple-tray installations, when batteries in one tray are connected, the battery cables in all trays will be energized. Remove sleeving from and connect one cable at a time. Do not allow a cable end to contact the battery tray or equipment rack.



WARNING! In the next step, observe correct polarity. Connect only cables labeled "+" to battery terminals labeled "+". Likewise, connect only cables labeled "-" to battery terminals labeled "-".

7. Connect the cables found in the battery tray to the battery terminals, "+" to "+" and "-" to "-". Observe correct polarity. Refer to **Figure 3.2**. Secure with hardware furnished with the battery. Torque hardware to battery manufacturer's recommendations.
8. Repeat steps 1 through 7 for any remaining battery trays.
9. **If Battery Trays Are Equipped With Circuit Breakers:** To connect the batteries to the power system, turn ON the Battery Disconnect circuit breakers located on all battery trays.

Figure 3.2 Battery Tray Battery Installation Details



Note:
 1. Two trays shown as example.
 2. Cabling detail omitted.

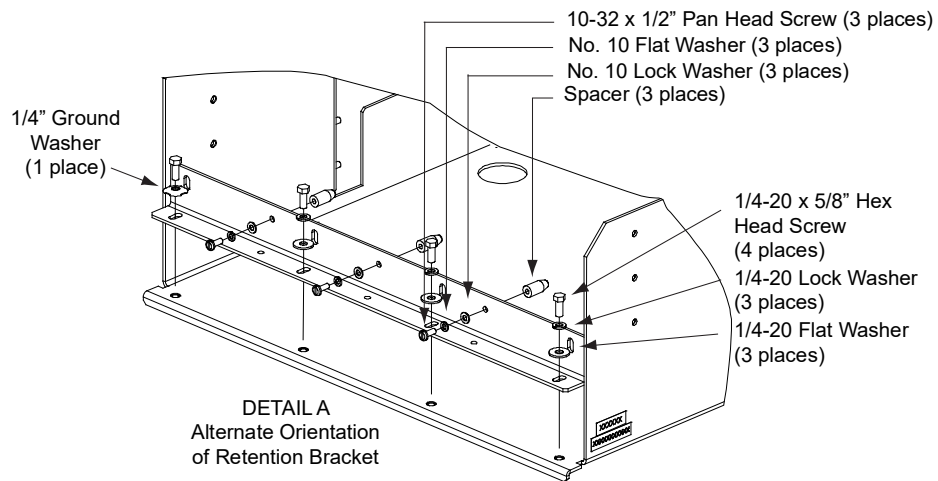
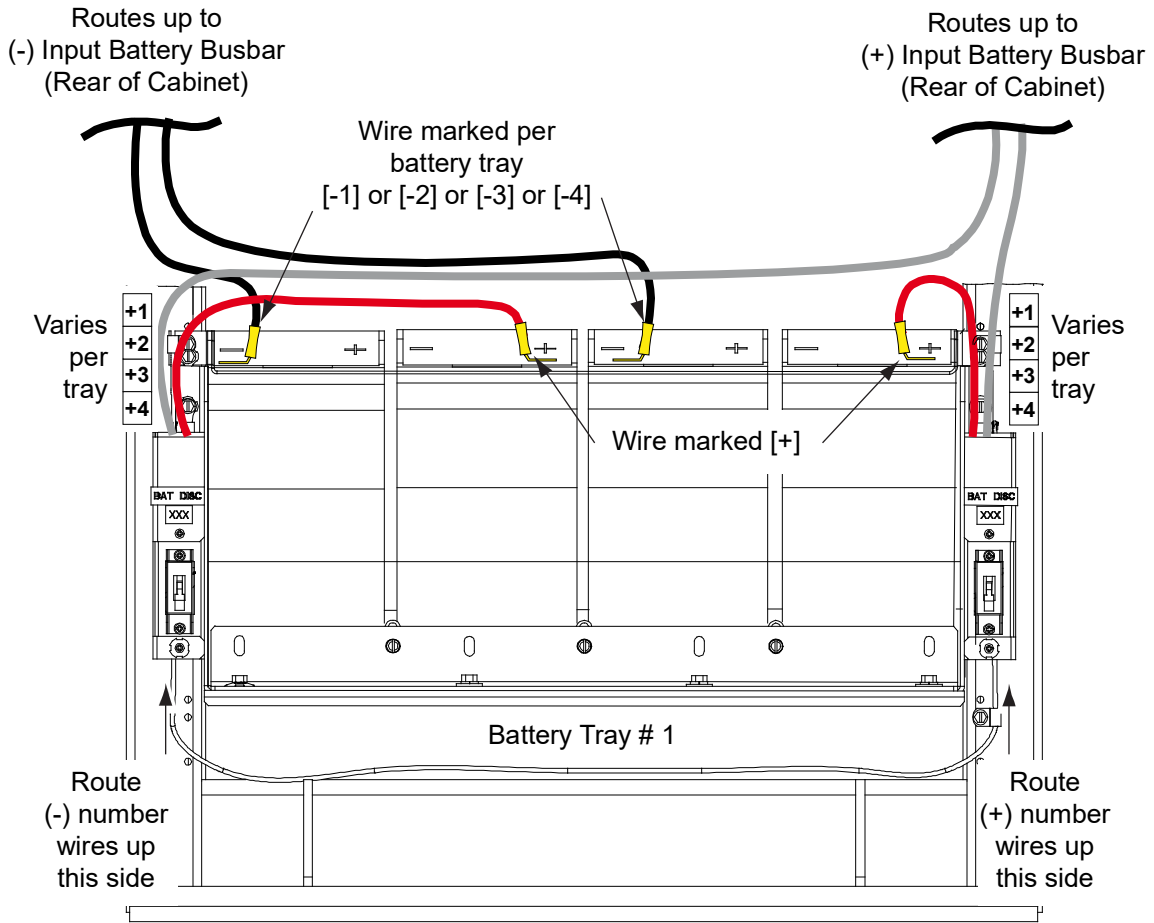


Figure 3.3 Cable Routing - Battery Tray with Circuit Breakers



4 Alarm Jumper Routing

Procedure



NOTE! Refer to **Figure 4.1** as this procedure is performed.

1. Connect the YELLOW 22GA jumper to “COM” terminal of breaker.
2. Route jumper up to the next circuit breaker. Refer to **Figure 4.1**.



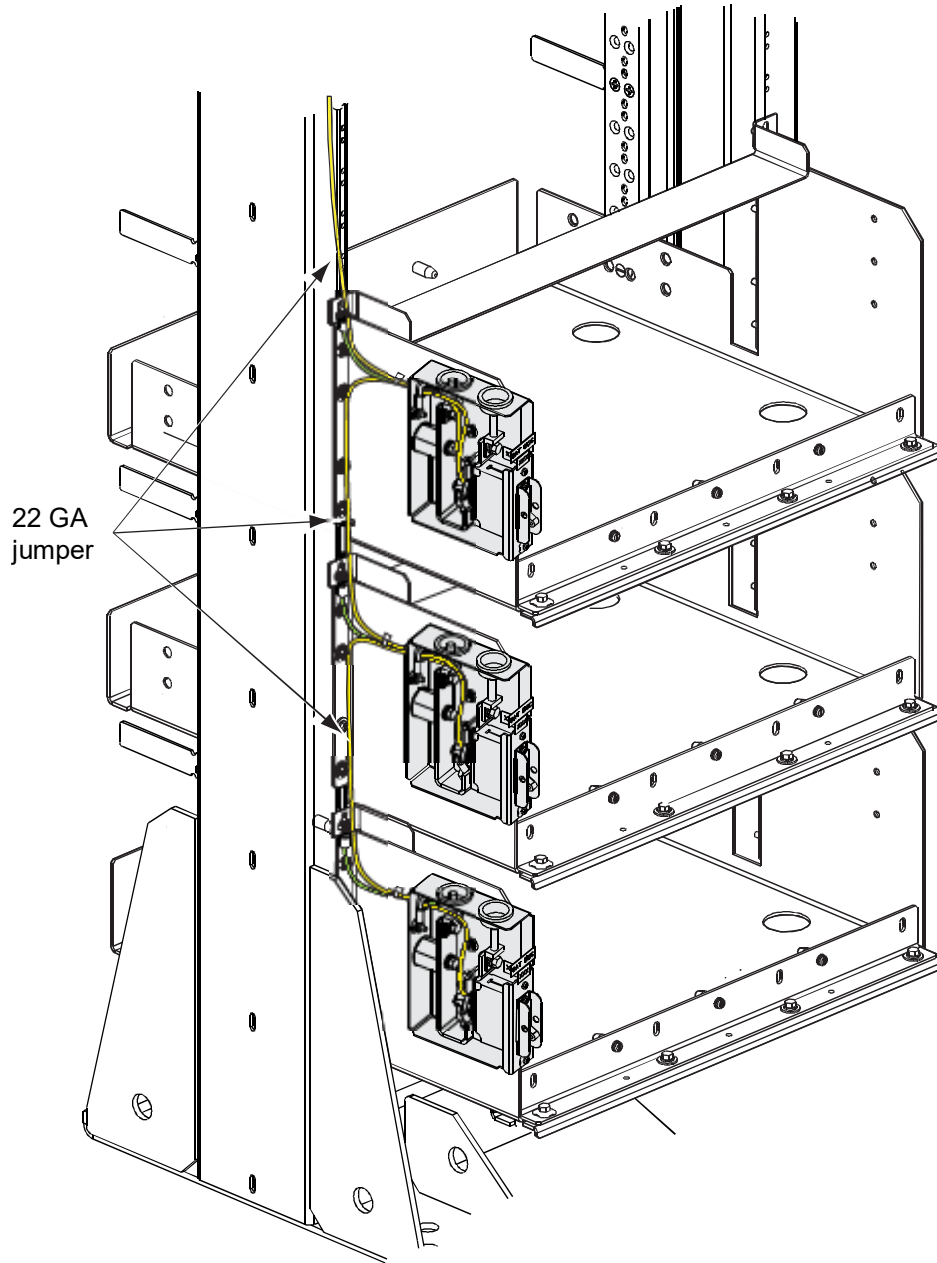
NOTE! If Alarm jumper is not required or there is no battery tray mounted on top, Ty-rap unused jumper back onto the harness.

3. Connect stripped end of alarm jumper into power system’s fuse alarm input connection point.



NOTE! For the Vertiv™ Vortex™ or Vertiv™ NetSure™ 700 system, this is PIN 11 of TB1 (System Fuse Alarm Input) on the Interconnect/Inhibit Card on the right side of the base of the power system distribution cabinet. For Vertiv™ NetSure™ 710 system this is PIN 1 of TB1 (Battery Tray FA) on the System Interface circuit card inside the distribution cabinet. Verify that when the battery disconnect breaker is turned off, the controller generates a FA alarm.

Figure 4.1 Alarm Jumper Routing



This page intentionally left blank.

Connect with Vertiv on Social Media



<https://www.facebook.com/vertiv/>



<https://www.instagram.com/vertiv/>



<https://www.linkedin.com/company/vertiv/>



<https://www.twitter.com/vertiv/>



Vertiv.com | Vertiv Headquarters, 1050 Dearborn Drive, Columbus, OH, 43085, USA

© 2022 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. Specifications, rebates and other promotional offers are subject to change at Vertiv's sole discretion upon notice.