NetSure™ 801 Series NCU Retrofit Kit

Installation Manual

Kit Specification Number: 60172578

For Use in Spec. No. 582140001 Power System (Model 801NLEB (List 01, 02, 04, 05, 06), Model 801NLDB (List 04, 05))

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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

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.

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1 Vertiv™ NetSure™ 801 Series NCU Retrofit Kit Installation Instructions

1.1 Kit Description

These instructions provide a step-by-step procedure to field install this kit into a Vertiv™ NetSure™ 801 Series DC Power System (Spec. No. 582140001, Model 801NLEB (List 01, 02, 04, 05, 06), Model 801NLDB (List 04, 05)). Installation of this kit in other equipment should not be attempted.

This kit replaces the MCA controller and LMS monitoring system in an existing system with the NCU controller that is offered in the kit.

1.2 Kit Contents

Table 1.1 lists the items furnished as a part of this kit. Before installing the kit, check the items furnished against those listed to ensure that there are no shortages.

Table 1.1 Kit Contents

Qty.	P/N	Description
1	10151603	Preassembled Main Bay Control Shelf (NCU Retrofit Shelf)
1	1M830BNA565806	NCU Controller
1	10121488	Connecting Harness
4	237650200	Cable Tie
1	150661	USB Pouch with USB Drive
1	60211998	Label, Nameplate, NetSure 801 Main Bay, 380 V / 480 V
1	60212232	Label, Nameplate, NetSure 801 Main Bay, 208 V
4	218710500	12-24 x 1/2" Hex Screw
4	215640600	#12 Washer
1	248610900	3 A Fuse
1	102774	Fuse Cover
1	60214529	Label, Blank, NS801 Retrofit Kits

1.3 Tools and Material Required

Table 1.2 lists the items required to install this kit.

NOTE! *Vertiv recommends using proper PPE, including insulated tools and gloves, while performing the retrofit.*

Table 1.2 Tools and Material Required

Description
Nut Driver Set
#1 Phillips Screwdriver
#2 Torx Head Screwdriver
#2 Flat Head Screwdriver
5/16" Hex Head Screwdriver
Fine Tip Permanent Marker

1.4 Physical Security

This product is designed and intended to be deployed and operated in a physically secure and network firewall-protected location. Vertiv recommends a review of the physical security and operating environment of the unit. Since an attacker or disgruntled user can cause serious disruption, below are some recommended best practices that include, but are not limited to:

- Restrict access to areas, racks, and units with encrypted card RFID/badges, unique multi-factor passcode authentication for access, man traps, and biometric scanners for physical access to the equipment.
- Have trusted and background-checked security guards with 24x7x365 physical presence and written logs to help document and note physical access to a data center, building, rack, and so on.
- Restrict physical access to telecommunications equipment and network cabling. Physical access to the telecommunications lines and network cabling should be restricted to protect against attempts to intercept or sabotage communications. Best practices include use of metal conduits for the network cabling running between equipment cabinets.
- All USB, RJ45, and/or any other physical ports should be restricted on the units.
- Do not connect removable media (such as USB devices, SD cards, and so on) for any operation (such as firmware upgrade, configuration change, or boot application change) unless the origin of media is known and trusted. Before connecting any portable device through a USB port or SD card slot, scan the device for malware and viruses.

1.5 Recording MCA Settings

NOTE! *Before installing this kit, manually record the settings in Table 1.3.*

Manually record all existing MCA settings or record the required settings for your site from your company's DC Plant Set Points specifications (standards) in Table 1.3, as applicable. The values can be found by scrolling through the various MCA menus. Refer to this table when making setting adjustments via the NCU later in the procedure. A configuration drawing is provided with the NCU controller to be used with the retrofit. Columns are provided with that drawing to record any adjustments made along with initials and date.

Table 1.3 MCA Settings

MCA Setting Name	MCA Setting	NCU Web Page Section	NCU Setting Name
Float Voltage		Battery Tab	Float Charge Voltage
Test/Equalize Voltage		Battery Tab	Equalize Charge Voltage
High Voltage Shutdown		Rectifiers Tab	HVSD Limit
Current Limit		Rectifiers Tab	Current Limit
Battery Current Limit		Battery Tab	Battery Current Limit
System HV1		System Tab	Over Voltage 1
System HV2		System Tab	Over Voltage 2
System BOD		System Tab	Under Voltage 1
System 50% BOD		System Tab	Under Voltage 2
System Current Alarm		System Tab	System Current Alarm
Subsystem HV		DC–DC Converter Tab	Over Voltage
Subsystem LV		DC–DC Converter Tab	Under Voltage
Subsystem Current Alarm		DC–DC Converter Tab	Over Current
Batt Charge Current Alarm		Battery Tab	Over Current Limit
High Temp 1		Temp Probes Tab	<Device> Temp# High 1
High Temp 2		Temp Probes Tab	<Device> Temp# High 1
High Temp 3		Temp Probes Tab	<Device> Temp# High 1
High Temp 4		Temp Probes Tab	<Device> Temp# High 1
High Temp 5		Temp Probes Tab	<Device> Temp# High 1
High Temp 6		Temp Probes Tab	<Device> Temp# High 1
High Temp 7		Temp Probes Tab	<Device> Temp# High 1
High Temp 8		Temp Probes Tab	<Device> Temp# High 1
Low Temp 1		Temp Probes Tab	<Device> Temp# Low
Low Temp 2		Temp Probes Tab	<Device> Temp# Low
Low Temp 3		Temp Probes Tab	<Device> Temp# Low
Low Temp 4		Temp Probes Tab	<Device> Temp# Low
Low Temp 5		Temp Probes Tab	<Device> Temp# Low
Low Temp 6		Temp Probes Tab	<Device> Temp# Low
Low Temp 7		Temp Probes Tab	<Device> Temp# Low
Low Temp 8		Temp Probes Tab	<Device> Temp# Low
Emergency Stop (On/Off)		System Tab	EStop/EShutdown
Low Speed Fan (On/Off)		Rectifiers	Fan Speed Control
Test/EQ Hours		Battery Tab	Maximum Equalize Charge Time (in minutes)
Auto EQ Enable/Disable		Battery Tab	Automatic Equalize
Auto EQ Multiplier		N/A Auto equalize timing is based on battery current	N/A Auto equalize timing is based on battery current
Relay Test Seconds		System Tab	Relay Test Time
Digital Temperature Compensation (Slope)		Battery Tab	Temp Comp Coefficient
Digital Temperature Compensation (MAX W/T)		Battery Tab	Temp Comp Max Voltage
Digital Temperature Compensation (MIN W/T)		Battery Tab	Temp Comp Min Voltage
Temperature Compensation Source		Battery Tab	Temp Comp Sensor

1.6 Installation Procedure

THESE INSTRUCTIONS SHOULD BE READ THROUGH COMPLETELY BEFORE INSTALLING THE KIT.

The following is a step-by-step procedure to install the kit. The procedure has been written for ease of use and to minimize the possibility of contact with potentially hazardous energy. This procedure should be performed in the sequence given, and each step should be completely read and fully understood before performing that step. Observe all "Important Safety Instructions" starting on page v and also those presented in the following procedure. As each step of the procedure is completed, the box adjacent to the respective step should be checked. This will minimize the possibility of inadvertently skipping any steps. If the step is not required to be performed for your site, also check the box to indicate that it was read.

DANGER! This kit can be installed with the system operating. Observe the "Important Safety Instructions" starting on page v and those listed in the power system manual.

CAUTION! When performing any step in procedures that requires removal or installation of hardware, use caution to ensure no hardware is dropped and left inside the unit; otherwise, service interruption or equipment damage may occur.

NOTE! *When performing any step in this procedure which requires removal of existing hardware, retain all hardware for use in subsequent steps, unless otherwise stated.*

Initial Procedure

[ ] 1. Performing this procedure may activate external alarms. Do one of the following. If possible, disable these alarms. If these alarms cannot be easily disabled, notify the appropriate personnel to disregard any future alarms associated with this system while the procedure is being performed.

[ ] 2. Record the LMS network address settings for later configuration of the NCU network parameters. See the following page from the LMS user manual.

IP Command

Description: Display information regarding the user configurable IP Network variables.

Command Level: 6

Syntax: IP

Comments: This command displays all the relevant IP information.

Notes: If the **Network Address**, **Netmask**, or **Gateway Address** is 0.0.0.0, the address will be displayed as **NONE**. If there are no hosts on the access list, the command displays the following message:

No host access list. Unrestricted access granted.

The authorized host list is the list of remote computers permitted to access the system via **telnet**, **TFTP**, or **SNMP**. Hosts are identified on the list by their IP address. The list supports a maximum of 32 entries.

If there are no hosts on the list, access is granted to any computer attempting to connect to the system.

Related Commands:
IP ADDRESS
IP DELETE
IP GATEWAY
IP HOST
IP NETMASK

Example:

```
Command<6> : IP
       IP Network Address  : 216.32.74.51
       IP Gateway Address  : 216.32.74.1
       IP Netmask          : 255.255.255.0
       Ethernet Address    : 00:0C:0A:60:12:2C
       IP Authorized Hosts : 216.32.74.42
                             216.32.74.43
```

IP Settings:

Manually record existing IP settings (if applicable) in Table 1.4.

Table 1.4 IP Settings

Parameter	Description/Values
IP Network Address	
IP Gateway Address	
IP Netmask	
Ethernet Address	
IP Authorized Hosts	

SNMP Settings:

Manually record existing SNMP settings (if applicable) in Table 1.5.

Table 1.5 SNMP Settings

Parameter	Description/Values
NMS IP	
Public Community	
Private Community	
System Name	
System Location	
System Contact	

Removing the Existing System Monitoring and Control Shelf (MCA and LMS) Procedure

[ ] 1. Label each cable attached to the Monitor and Control Shelf. See Figure 1.1 through Figure 1.8.

[ ] 2. Disconnect and insulate each cable.

Figure 1.1 Removing Cables

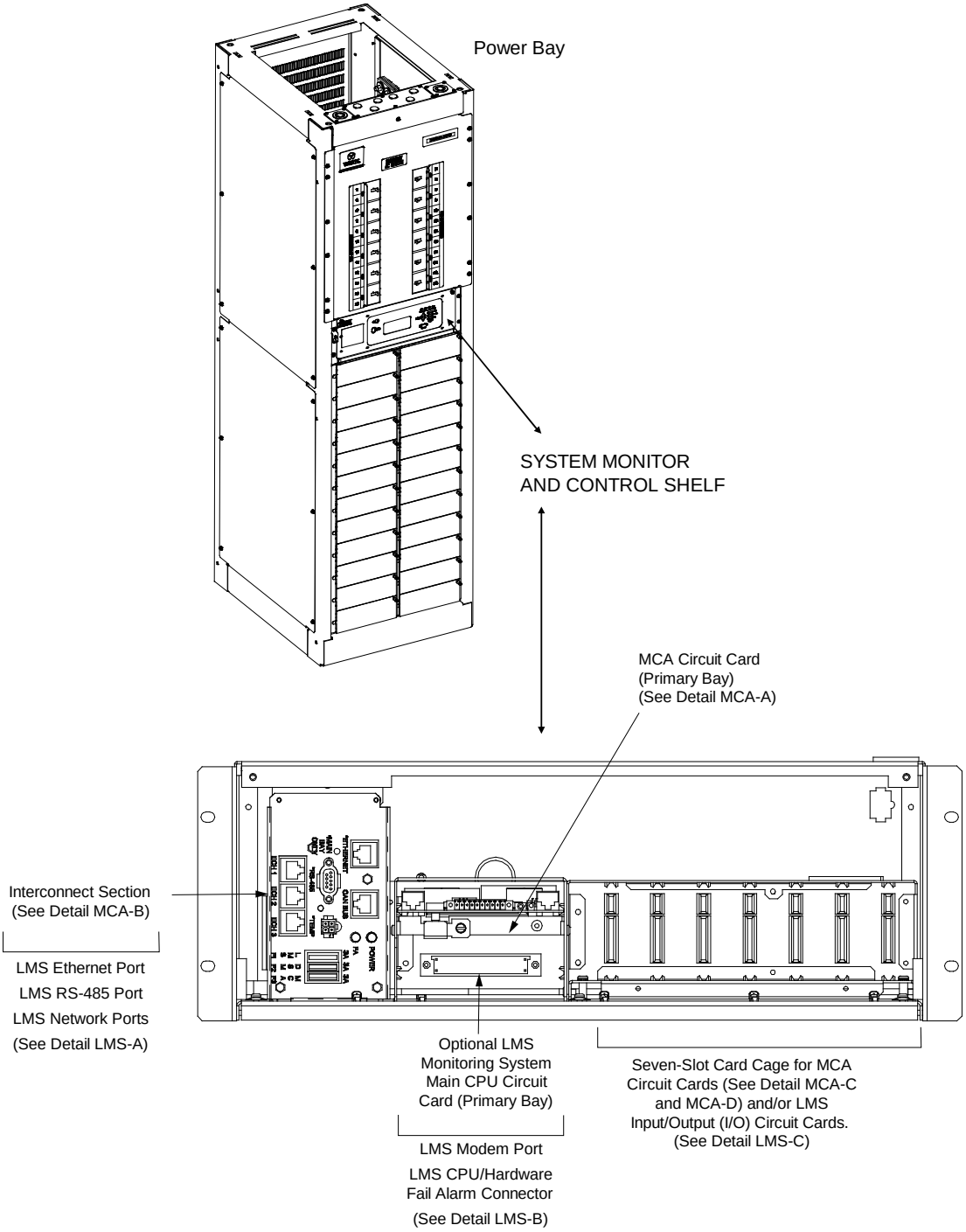
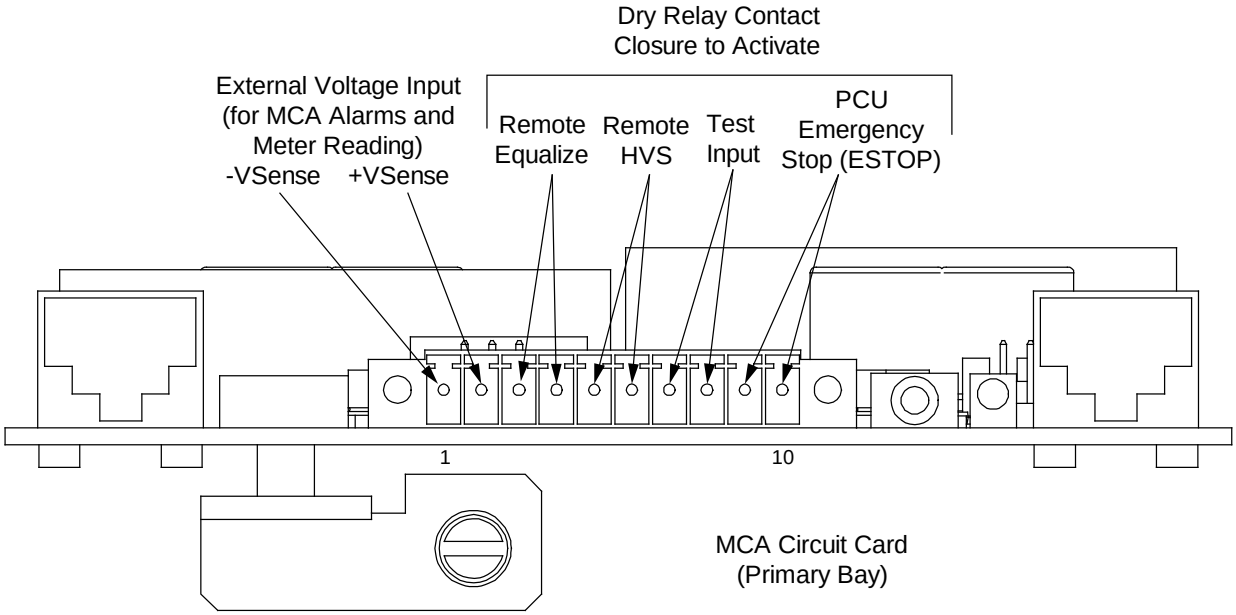


Figure 1.2 Removing Cables – Detail MCA-A

DISCONNECT AND REMOVE THESE LEADS FROM THE BAY OR INSULATE AND TIE BACK THESE LEADS PER YOUR COMPANY POLICIES. THESE LEADS WILL NOT BE RECONNECTED TO THE BAY, EXCEPT ESTOP IF REQUIRED.

Detail MCA-A

ESTOP LEAD IS CONNECTED TO THE IB2 BOARD LOCATED IN THE NEW MAIN BAY RETROFIT SHELF (P/N 10151603) THROUGH ONE OF THE CABLE ENTRY LOCATIONS WITH GROMMETS OR FROM THE BACK. SEE UM60172578 FOR DETAILS.



REMOVE THE MCA NETWORK CABLE

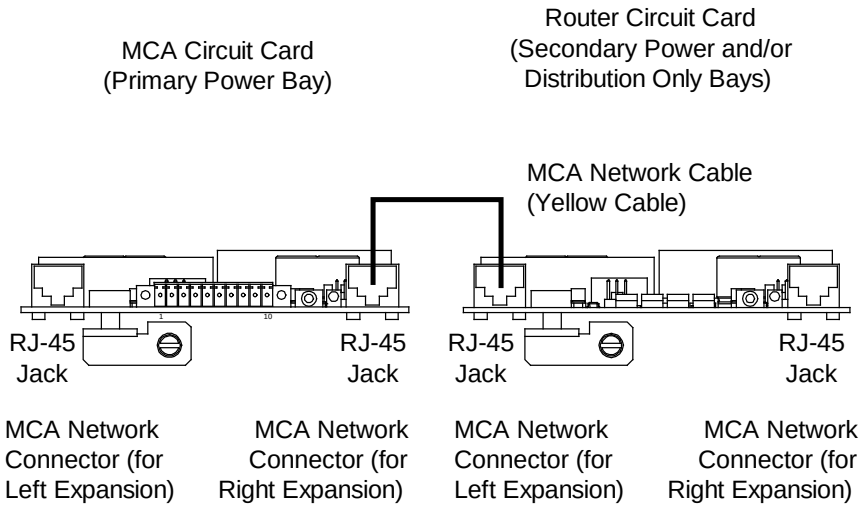


Figure 1.3 Removing Cables – Detail MCA-B

DISCONNECT AND REMOVE THE LEADS INSTALLED IN THE CONNECTORS BELOW FROM THE BAY.
THESE LEADS WILL NOT BE RECONNECTED TO THE BAY.

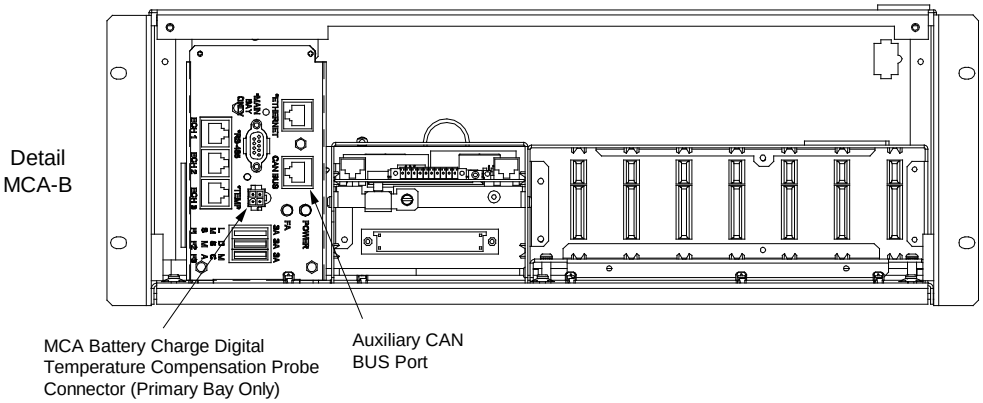


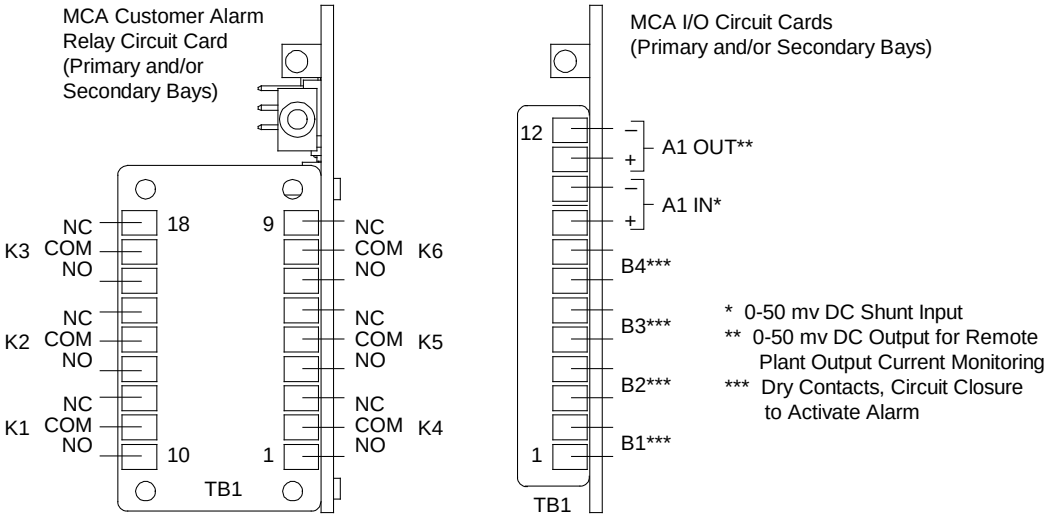
Figure 1.4 Removing Cables – Detail MCA-C

IF THE LEADS IN THE BELOW CARDS WILL NOT BE REUSED: DISCONNECT AND REMOVE THESE LEADS FROM THE BAY OR INSULATE AND TIE BACK THESE LEADS PER YOUR COMPANY POLICIES.

IF THESE LEADS WILL BE RECONNECTED TO THE NCU INTERFACE CARDS: LABEL THE LEADS THEN TEMPORARILY DISCONNECT, INSULATE, AND TIE BACK THESE LEADS.

IF REQUIRED TO RECONNECT, THESE LEADS WILL BE RECONNECTED TO THE IB2 AND EIB BOARDS OF THE NEW MAIN BAY RETROFIT SHELF (P/N 10151603) AND SM-DUE (SUPPLEMENTAL BAY) BOARD THROUGH ONE OF THE CABLE ROUTING OPENINGS WITH GROMMETS OR FROM THE BACK. SEE UM60172578 For DETAILS.

EXISTING MCA TEMPERATURE PROBES ARE NOT COMPATIBLE WITH THE NCU AND NEW PROBES MUST BE INSTALLED.



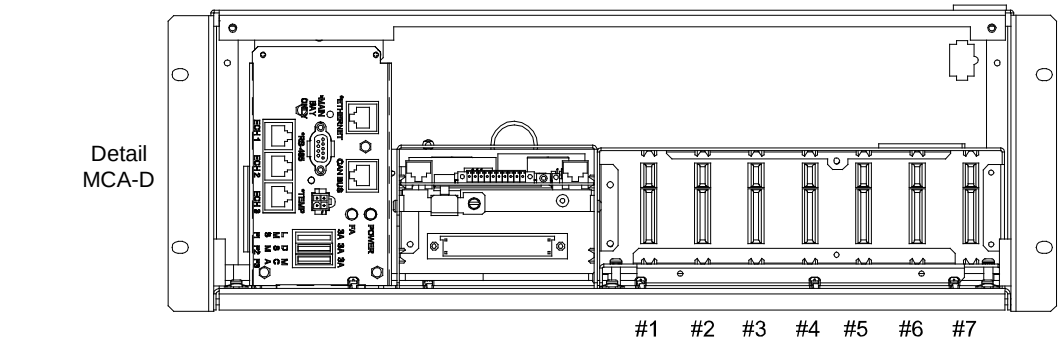
Detail MCA-C

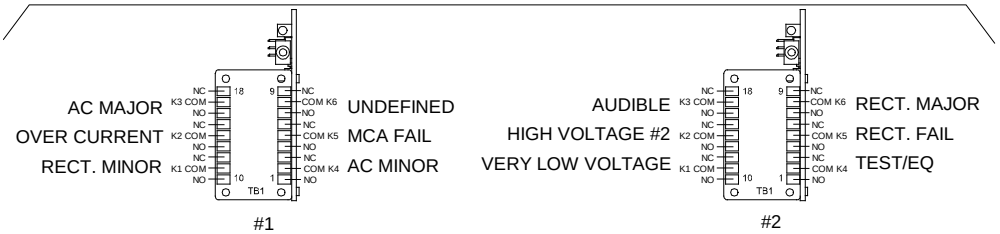
Figure 1.5 Removing Cables – Detail MCA-D

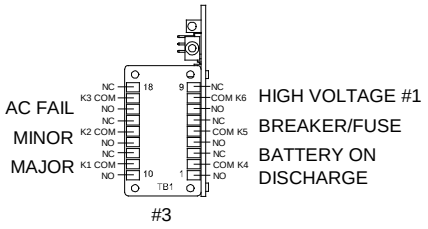
IF THE LEADS IN THE BELOW CARDS WILL NOT BE REUSED:
DISCONNECT AND REMOVE THESE LEADS FROM THE BAY OR INSULATE AND TIE BACK THESE LEADS PER YOUR COMPANY POLICIES.

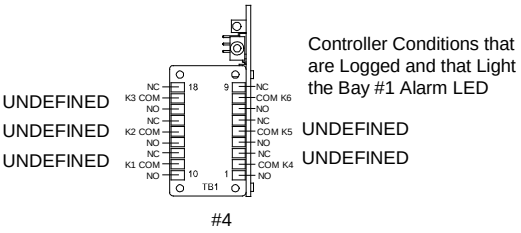
IF THESE LEADS WILL BE RECONNECTED TO THE NCU INTERFACE CARDS:
LABEL THE LEADS THEN TEMPORARILY DISCONNECT, INSULATE, AND TIE BACK THESE LEADS.

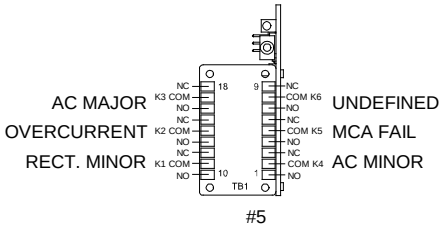
IF REQUIRED TO RECONNECT, REFER TO THE C-DRAWING PROVIDED IN THE USB DRIVE FOR CONNECTION OPTIONS.

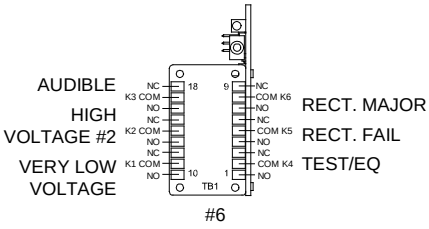


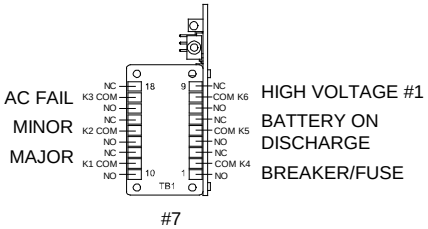












Notes
NC = Normally Close Contact
COM = Common
NO = Normally Open Contact

All relay contacts are shown with the relay de-energized.

All relays are energized during normal operation, and de-energized during an alarm condition.

Figure 1.6 Removing Cables – Detail LMS-A

Detail LMS-A

DISCONNECT AND REMOVE THE LEADS SECURED IN THE LMS PORTS FROM THE BAY OR INSULATE AND TIE BACK THESE LEADS PER YOUR COMPANY POLICIES. THESE LEADS WILL NOT BE RECONNECTED TO THE BAY, EXCEPT THE ETHERNET PORT CABLE, IF REQUIRED.

IF REQUIRED, THIS ETHERNET PORT CABLE WILL BE CONNECTED TO THE IB5 BOARD OF THE NCU MAIN BAY RETROFIT SHELF THROUGH ONE OF THE CABLE ENTRY LOCATIONS WITH GROMMETS OR FROM THE BACK.

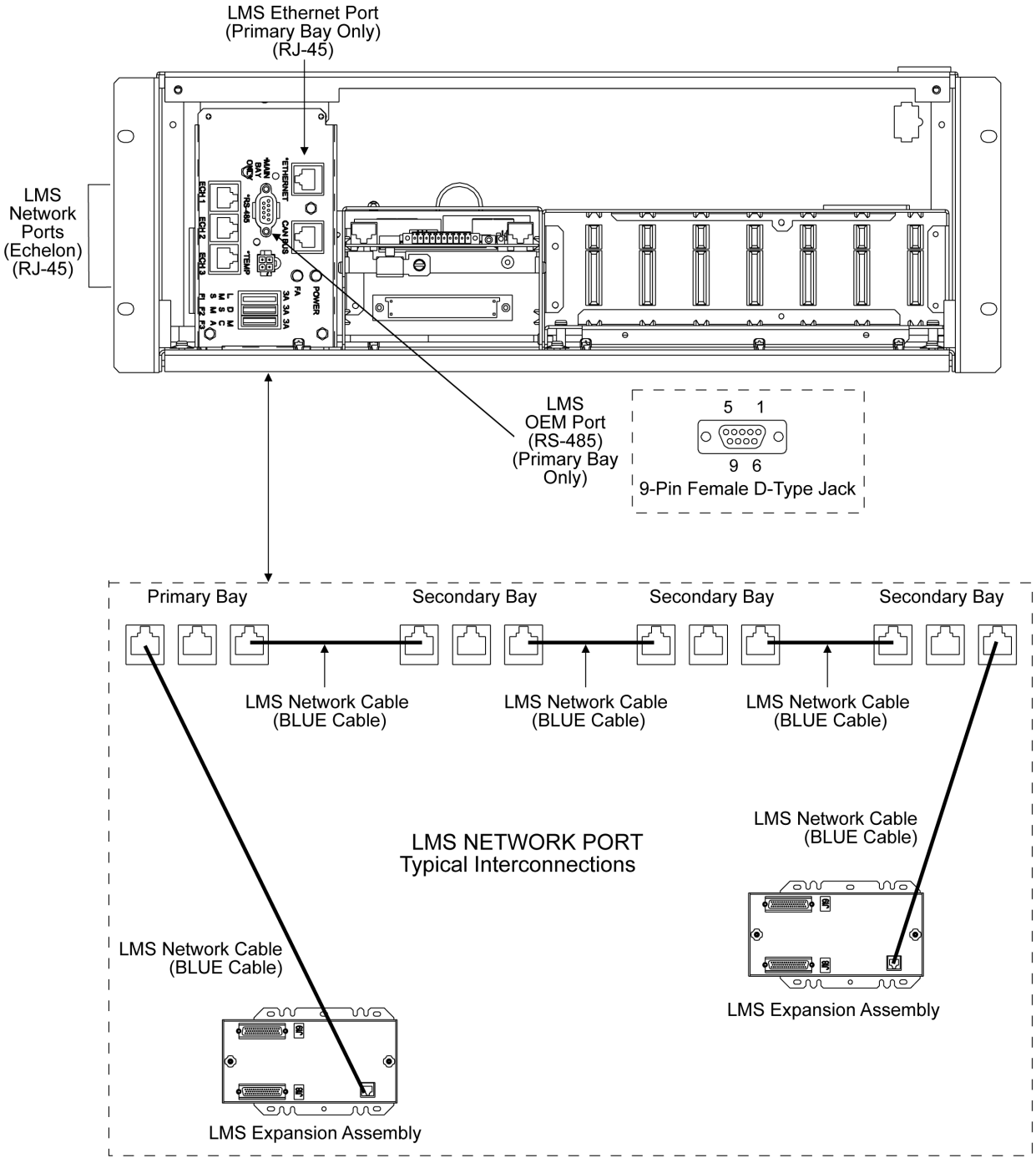


Figure 1.7 Removing Cables – Detail LMS-B

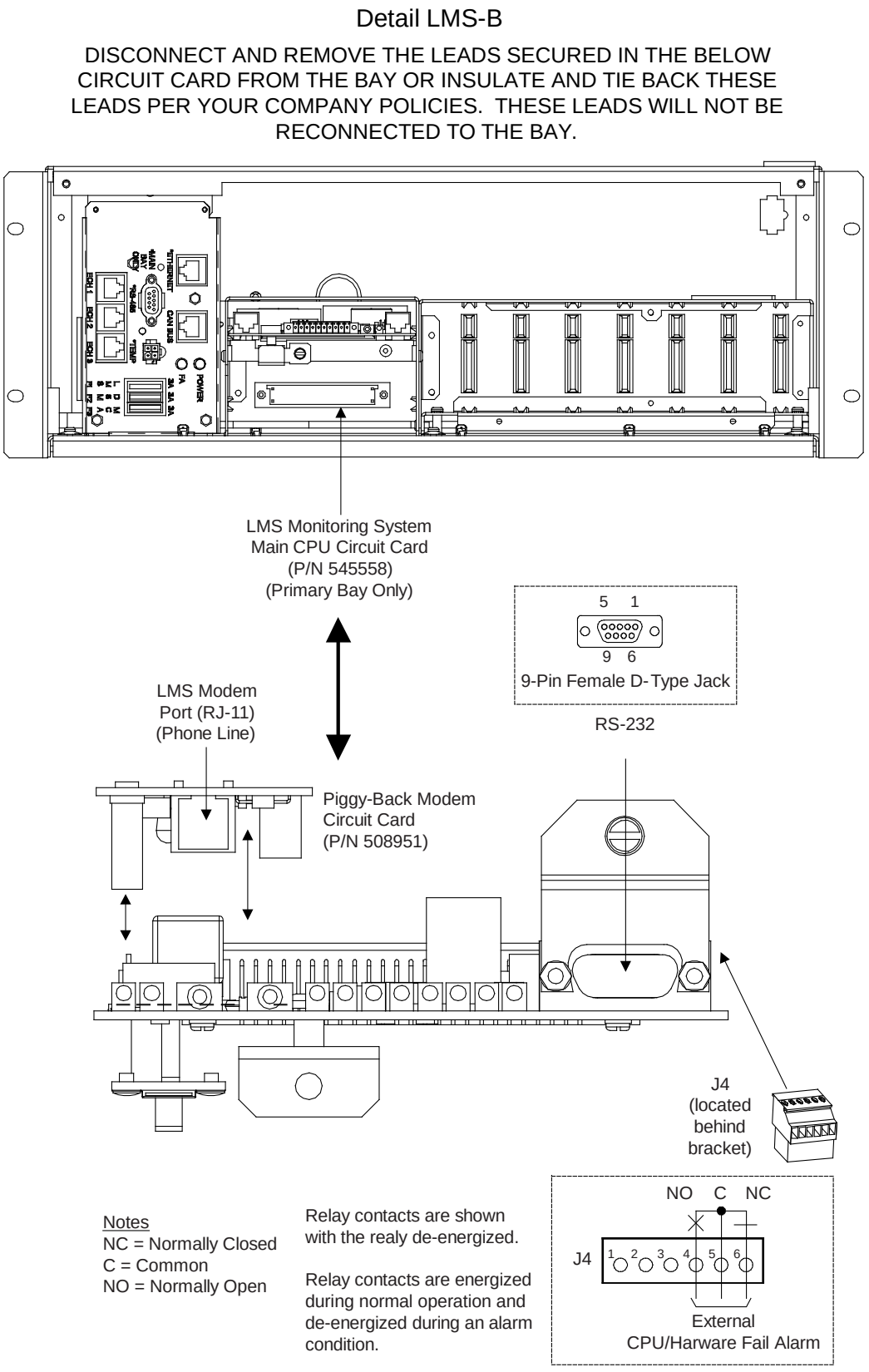
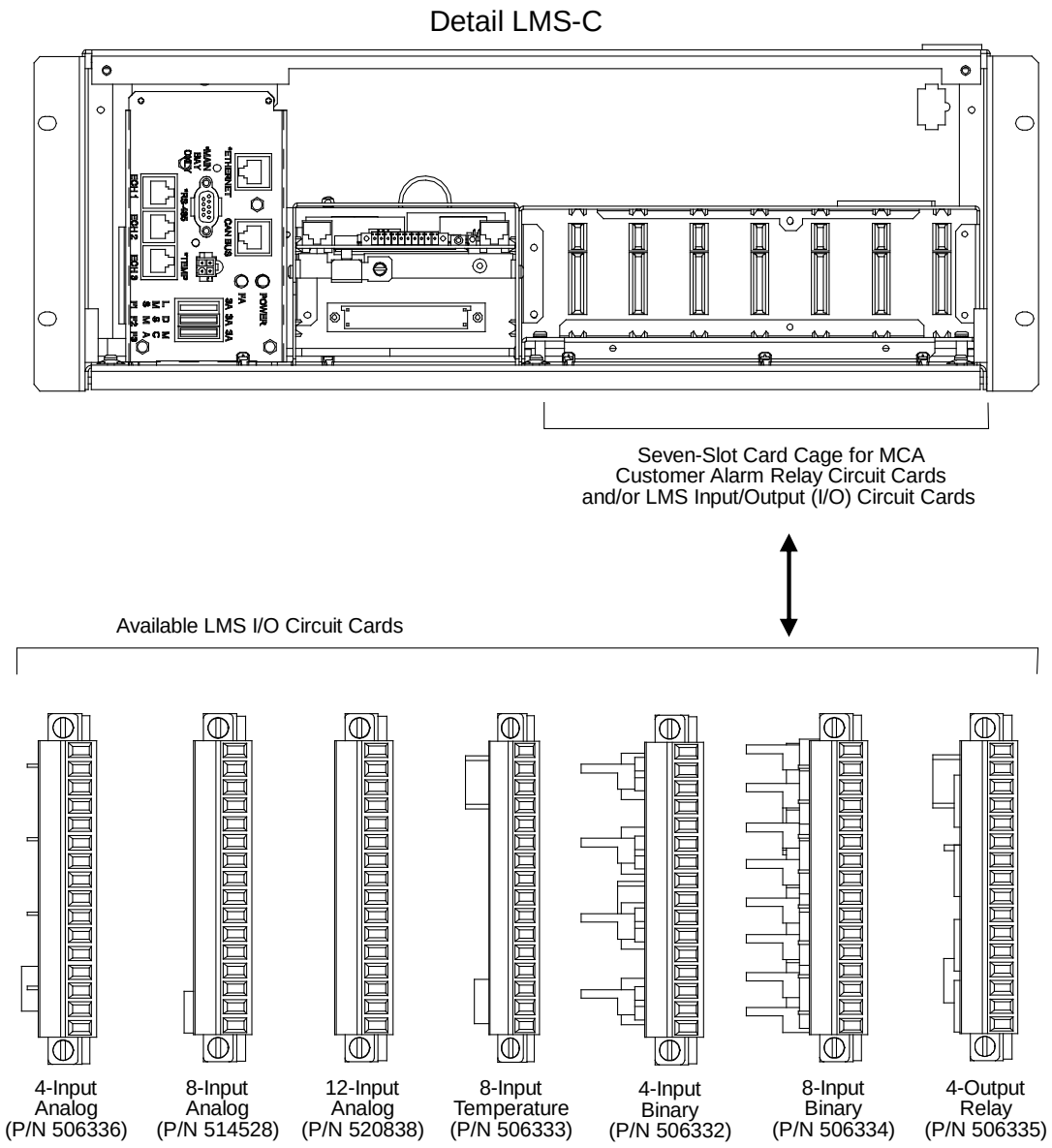


Figure 1.8 Removing Cables – Detail LMS-C



IF THE LEADS IN THE LMS I/O CARDS WILL NOT BE REUSED: DISCONNECT AND REMOVE THESE LEADS FROM THE BAY OR INSULATE AND TIE BACK THESE LEADS PER YOUR COMPANY POLICIES.

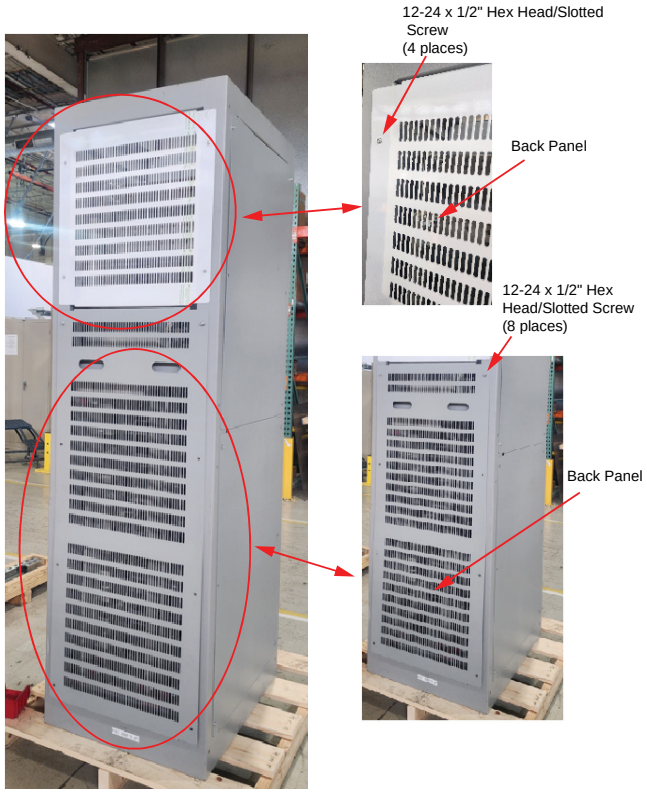
IF THESE LEADS WILL BE RECONNECTED TO THE NCU INTERFACE CARDS: LABEL THE LEADS THEN TEMPORARILY DISCONNECT, INSULATE, AND TIE BACK THESE LEADS.

IF REQUIRED, THESE LEADS WILL BE RECONNECTED TO THE IB2 AND EIB BOARDS OF THE NEW MAIN BAY RETROFIT SHELF (P/N 10151603) THROUGH ONE OF THE CABLE ENTRY LOCATIONS WITH GROMMETS OR FROM THE BACK. SEE UM60172578 FOR DETAILS.

EXISTING LMS TEMPERATURE PROBES ARE NOT COMPATIBLE WITH THE NCU AND NEW PROBES MUST BE INSTALLED.

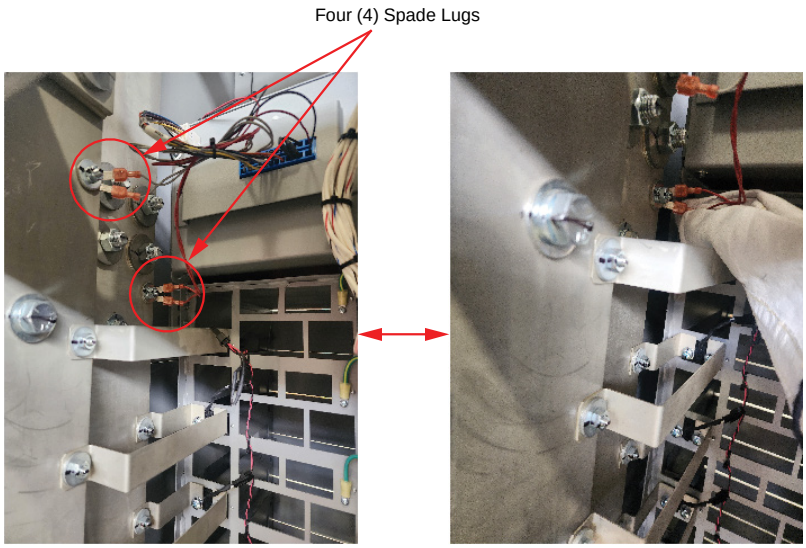
[ ] 3. Remove both back panels by removing the twelve (12) 12-24 x 1/2" hex head/slotted screws using a flat head screwdriver or 5/16" hex head driver. See Figure 1.9. These panels will be reassembled after the retrofit kit installation using the removed hardware.

Figure 1.9 Removing the Back Panels



[ ] 4. Remove the two (2) spade lugs (at the end of two red wires) from the quick connect terminal of BAT bus bar. Remove the two (2) spade lugs (at the end of two black or gray wires) from the quick connect terminal of RTN bus bar. See Figure 1.10. This will result in the disconnection of power to the System Monitoring and Control Shelf (MCA and LMS).

Figure 1.10 Removing the Spade Lugs



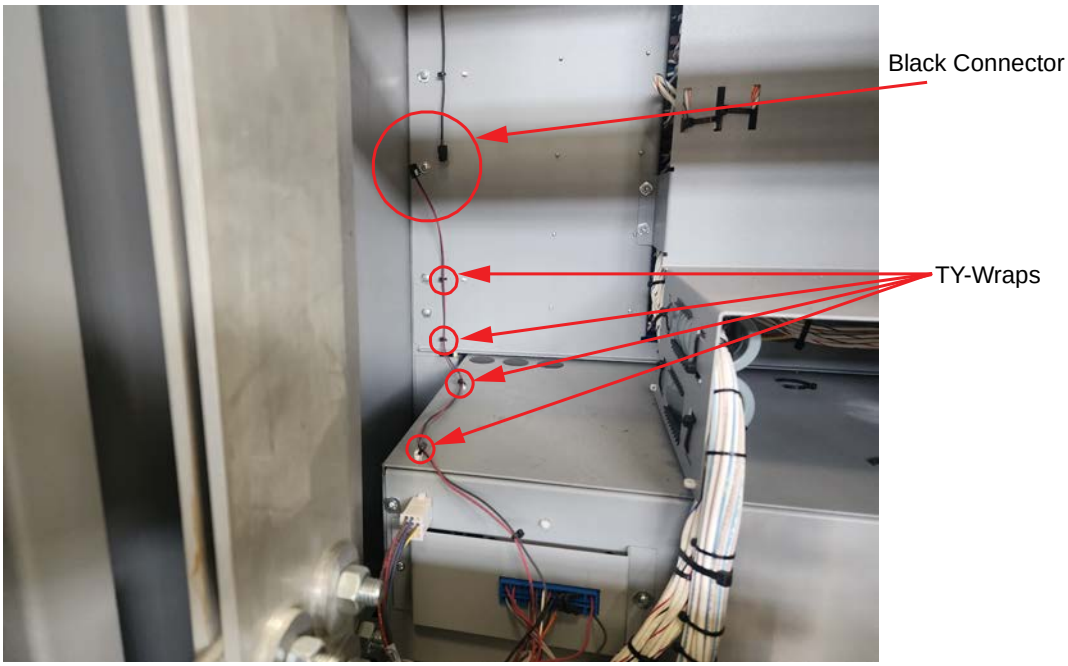
[ ] 5. Unplug the black connector as shown in Figure 1.11 to disconnect the CAN connection from the rectifiers.

Figure 1.11 Removing the Black Connector to Disconnect the CAN Connection

[ ] 6. Unplug the black connector to disconnect the LED light connection. Then, cut the ty wraps to release the wire routing at the back of the System Monitoring and Control Shelf (MCA and LMS). See Figure 1.12. This completes all disconnections from the back of the System Monitoring and Control Shelf (MCA and LMS).

NOTE! *Make sure that all unplugged cables are coiled and tied to the back of the System Monitoring and Control Shelf (MCA and LMS) to prevent them from snagging while sliding the shelf out.*

Figure 1.12 Removing Black Connector to Disconnect the LED Connection



[ ] 7. If the primary bay has a system name plate label adhered to the front plate of the System Monitoring and Control Shelf (MCA and LMS) (see Figure 1.13), the system information on this name plate must be written with a fine tip permanent marker on the blank label (P/N 601214529) that is provided in the kit. After confirming the information is written correctly (see Figure 1.14), adhere the new label on the AC panel as shown in Figure 1.13

NOTE! *This step is not required for power bays that do not have the system name plate originally adhered on the AC panel.*

Figure 1.13 Adhering System Replacement Label

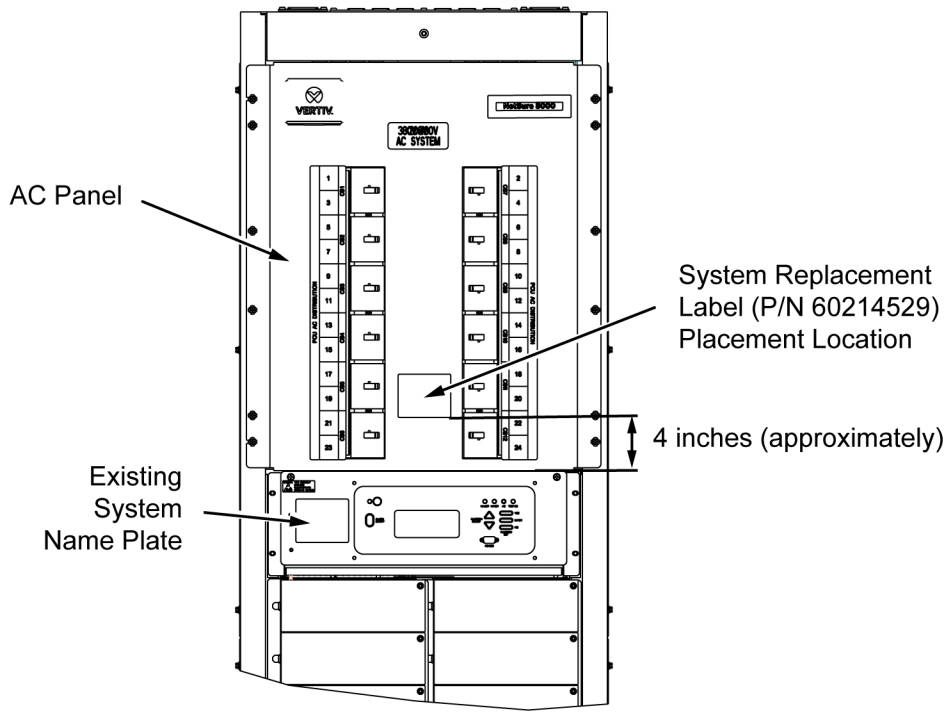
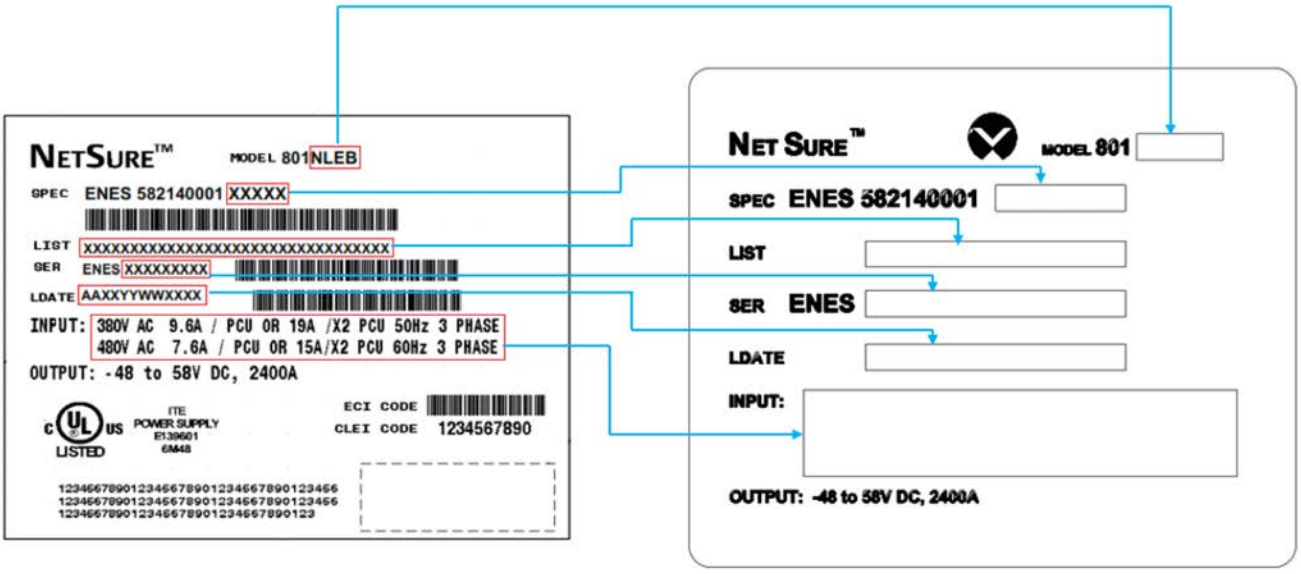


Figure 1.14 Entering System Information on Blank Label (P/N 601214529)



[ ] 8. From the front, remove the four (4) 12-24 x 1/2" hex head/slotted screws from the System Monitoring and Control Shelf (MCA and LMS) mounting brackets using a flat head screwdriver or 5/16" hex head driver. See Figure 1.15. Pull the System Monitoring and Control Shelf (MCA and LMS) from its slot. Remove the System Monitoring and Control Shelf from the front of the system.

WARNING! Shelf is heavy. Use caution when pulling the MCA/LMS shelf out and while lifting.

NOTE! *Keep the ESD ground strap bracket and hardware for later reuse. The ESD ground strap bracket will be re-installed in the same location when the new kit furnished main bay control shelf (NCU retrofit shelf) is installed.*

Figure 1.15 Removing System Monitoring and Control Shelf (MCA and LMS)

Installing the Kit Furnished Main Bay Control Shelf (NCU Retrofit Shelf) Procedure

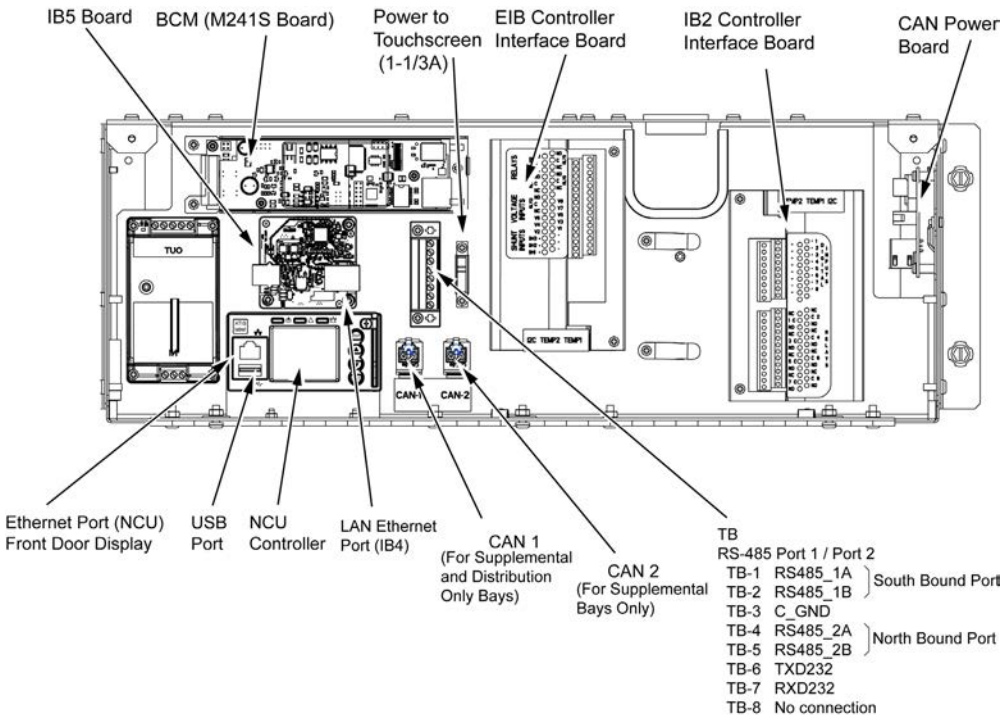
[ ] 1. Slide the main bay control shelf (NCU retrofit shelf) in the same position as the System Monitoring and Control Shelf (MCA and LMS) just removed. See Figure 1.16. Align the shelf mounting brackets to the rack rails. Place the ESD ground strap at one of the mounting hole locations and secure the shelf to the rack rails with the four (4) 12-24 x 1/2" hex head/slotted screws (provided in the package) using a flat head or 5/16" hex head screwdriver.

NOTE! *Use the ground strap that was removed during the removal of System Monitoring and Control Shelf (MCA and LMS).*

Figure 1.16 Installing the Kit Furnished Main Bay Control Shelf (NCU Retrofit Shelf)

[ ] 2. Open the door by turning both the captive screws on the door counterclockwise. Figure 1.17 shows the component layout inside the main bay control shelf (NCU retrofit shelf).

Figure 1.17 Component Layout



[ ] 3. Set the bay address on the CAN power board. Each bay needs a unique address to communicate with the NCU.

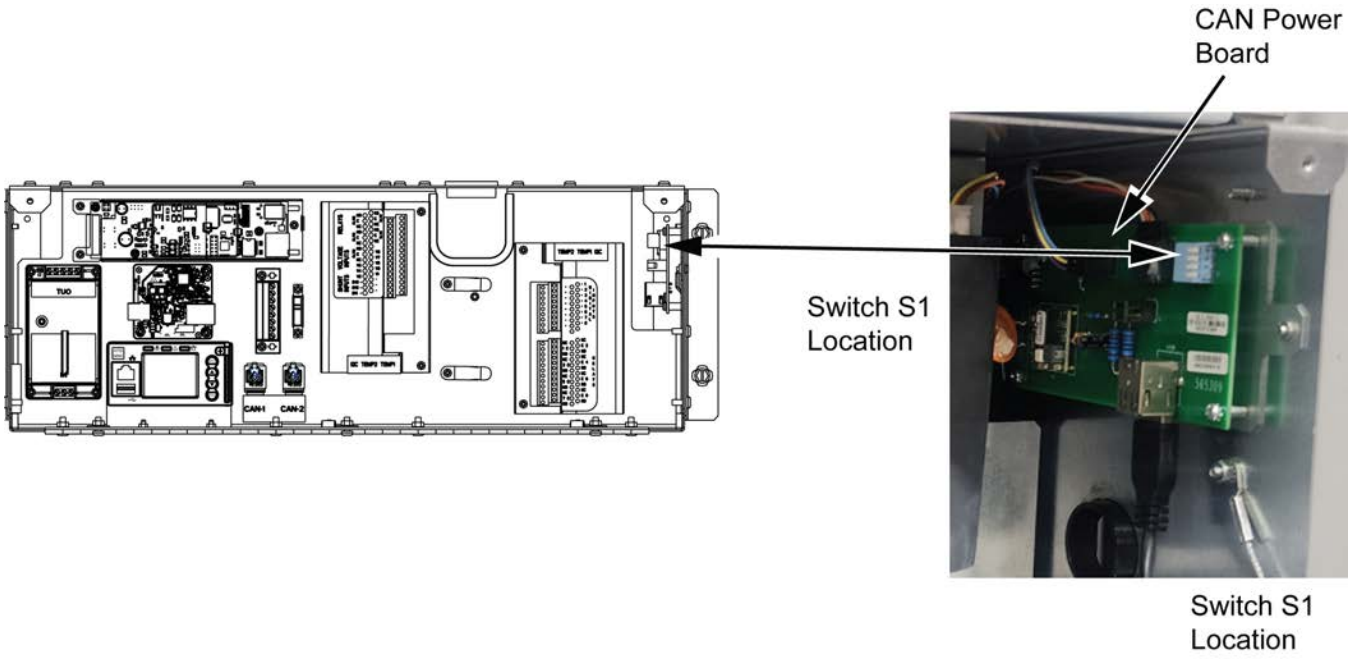
a) Dip Switch S1 is used to set the communications address for each bay. Refer to Table 1.6 for S1 settings. Refer to Figure 1.18 for S1 location.

b) Set the addressing switches on each kit installed in the system to a unique address per Table 1.6

Table 1.6 DIP Switch S1 (Bay Addressing)

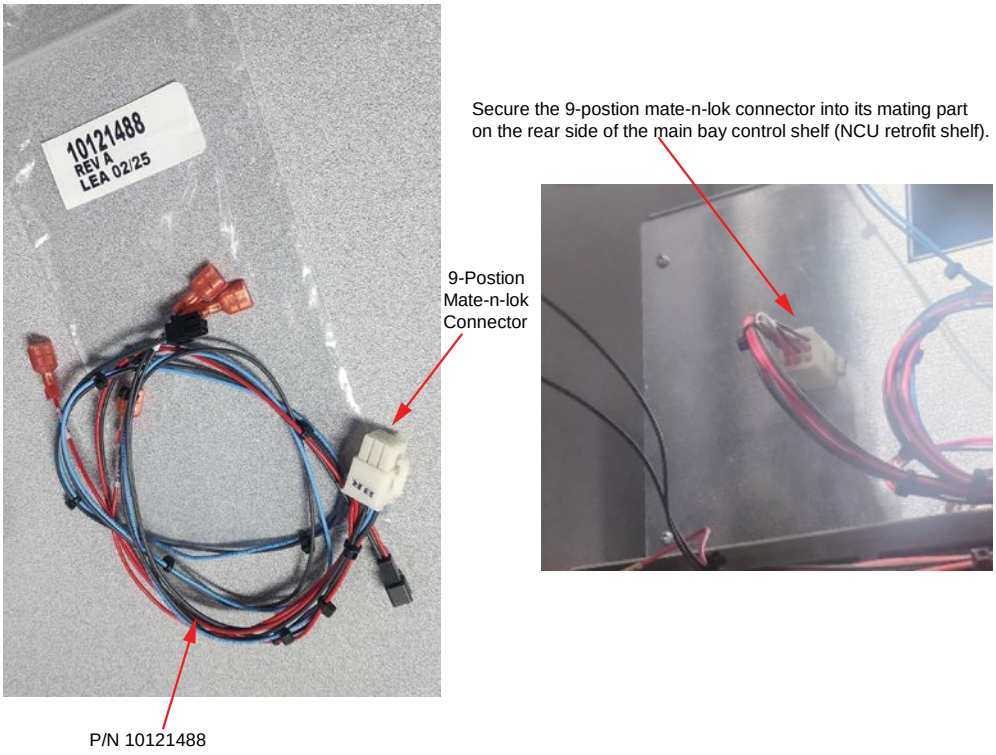
DIP Switch S1				
Communication Address			Reserved	Description of Status
1	2	3	4	
DOWN	DOWN	DOWN	DOWN	Address 1# (Setting for 1st Bay in System)
UP	DOWN	DOWN		Address 2# (Setting for 2nd Bay in System)
DOWN	UP	DOWN		Address 3# (Setting for 3rd Bay in System)
UP	UP	DOWN		Address 4# (Setting for 4th Bay in System)
DOWN	DOWN	UP		Address 5# (Setting for 5th Bay in System)
UP	DOWN	UP		Address 6# (Setting for 6th Bay in System)
DOWN	UP	UP		Address 7# (Setting for 7th Bay in System)
UP	UP	UP		Address 8# (Setting for 8th Bay in System)
DOWN	DOWN	DOWN	UP	Address 9# (Setting for 9th Bay in System)
UP	DOWN	DOWN		Address 10# (Setting for 10th Bay in System)
DOWN	UP	DOWN		Address 11# (Setting for 11th Bay in System)
UP	UP	DOWN		Address 12# (Setting for 12th Bay in System)
DOWN	DOWN	UP		Address 13# (Setting for 13th Bay in System)
UP	DOWN	UP		Address 14# (Setting for 14th Bay in System)
DOWN	UP	UP		Address 15# (Reserved)
UP	UP	UP		Address 16# (Reserved)

Figure 1.18 DIP Switch S1 (Bay Addressing)



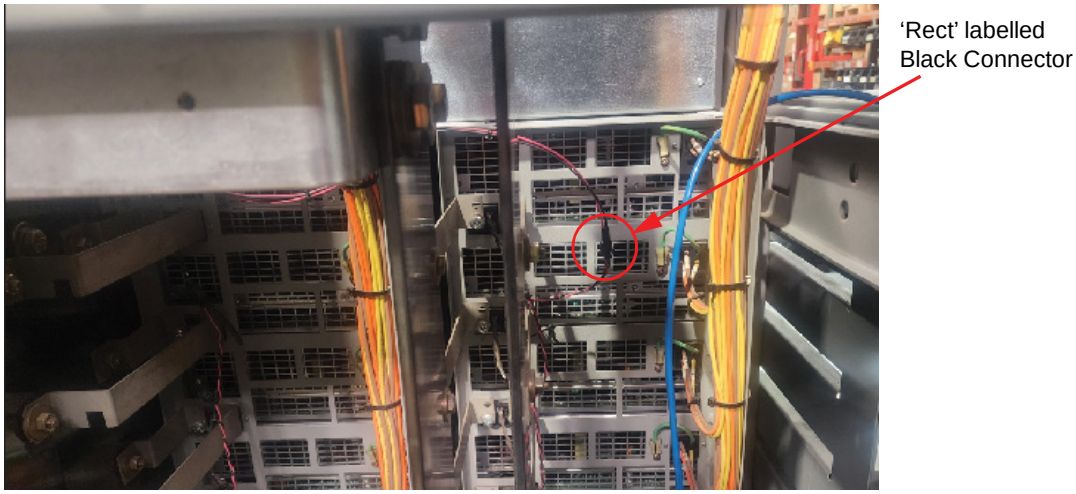
[ ] 4. Take out harness P/N 10121488 from the kit/package and secure the 9-postion mate-n-lok connector into its mating part on the rear side of the main bay control shelf (NCU retrofit shelf) as shown in Figure 1.19.

Figure 1.19 Securing the 9-Position Mate-n-lok Connector



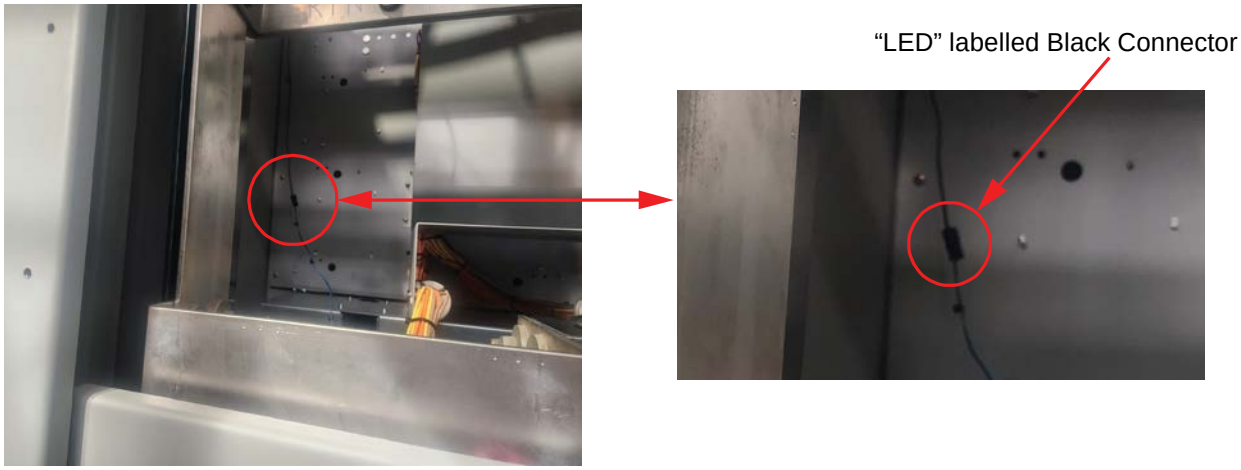
[ ] 5. At the back side of the system, plug in the black connector labelled 'Rect' to its mating connector as shown in Figure 1.20.

Figure 1.20 Connecting 'Rect' labelled Black Connector



[ ] 6. Plug in the black connector labelled ‘LED’ to its mating connector as shown in Figure 1.21.

Figure 1.21 Connecting ‘LED’ Labelled Black Connector

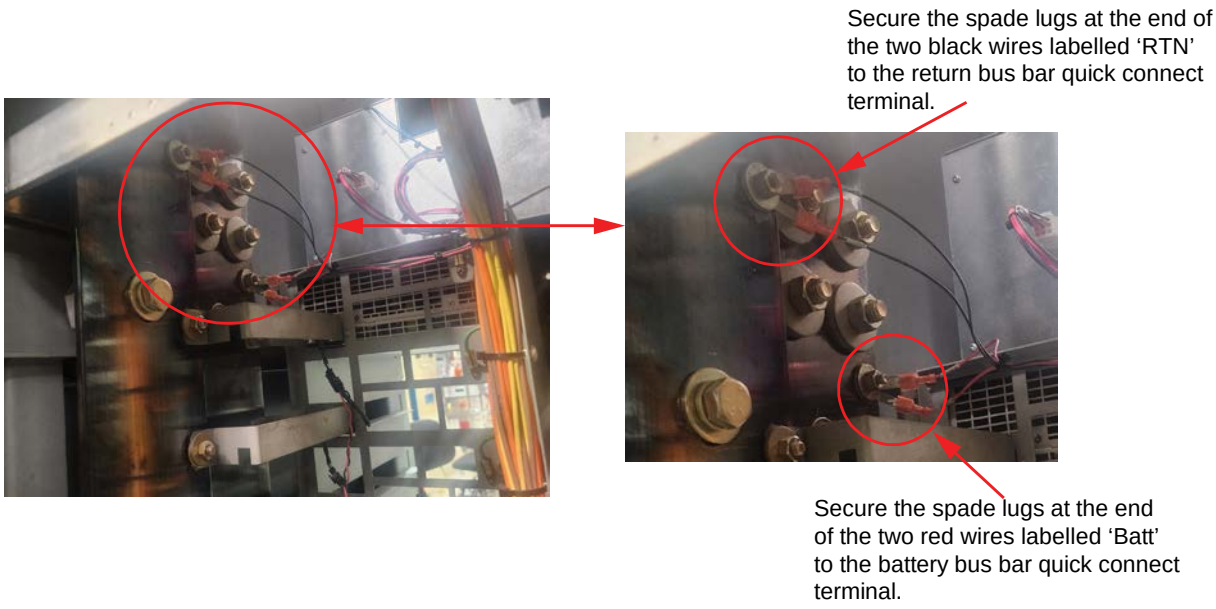


[ ] 7. Secure the spade lugs at the end of the two black wires labelled ‘RTN’ to the return bus bar quick connect terminal as shown in Figure 1.22.

NOTE! Since the system is live, a spark is generated while installing the 'Batt' wires (red wires) in the next step.

[ ] 8. Secure the spade lugs at the end of the two red wires labelled ‘Batt’ to the battery bus bar quick connect terminal as shown in Figure 1.22.

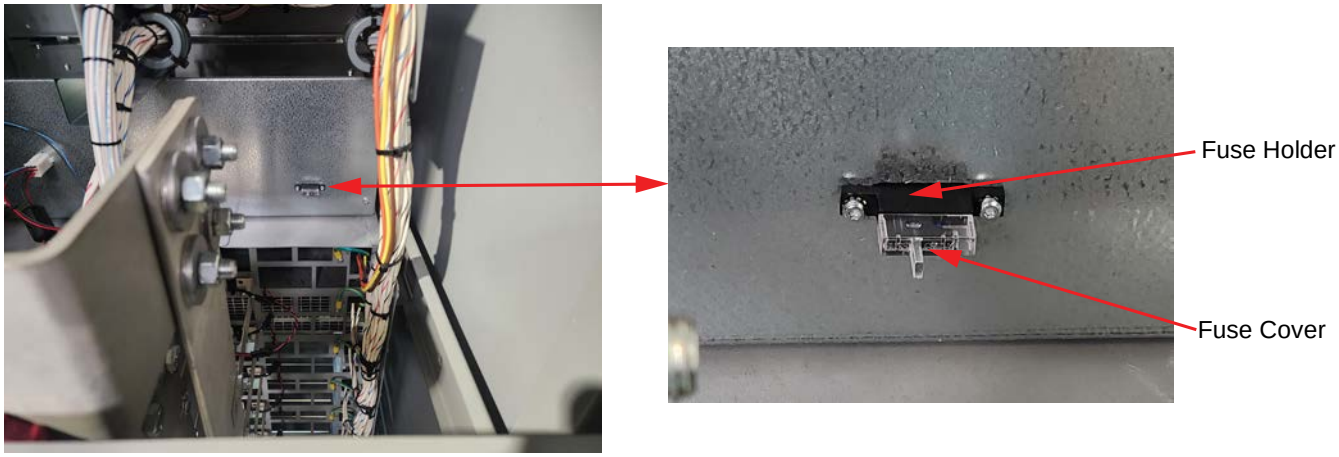
Figure 1.22 Securing the Spade Lugs



[ ] 9. Install the 3 A fuse in the fuse holder (fuse and fuse holder provided in the package) as shown in Figure 1.23. Install the fuse cover.

NOTE! *The retrofit shelf is now energized, and the touchscreen is turned on. The display will show the message 'No Internet'. This message will remain until the NCU is installed and the network cable is connected to the NCU.*

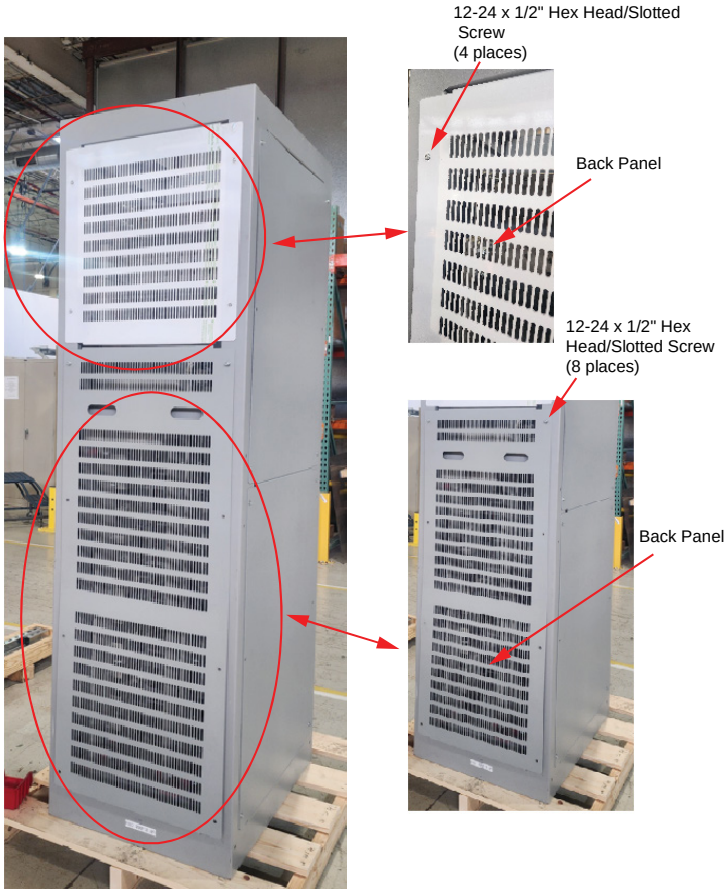
Figure 1.23 Installing 3 A Fuse



[ ] 10. Reinstall the back panels that were previously removed. See Figure 1.24.

NOTE! *Use the hardware that were removed during the removal of the back panels.*

Figure 1.24 Reinstalling the Back Panels



Installing the NCU Controller (P/N 1M830BNA)

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

DANGER! Respecter les « Instructions de sécurité importantes » présentées au début du présent document.

ALERT! CONTROLLER HANDLING. Installation or removal of the controller requires careful handling. To avoid possibility of controller damage from static discharge, a static wrist strap grounded through a one megohm resistor should always be worn when handling the controller. ESD-protective packaging material must also be used when carrying/shipping the controller.

ALERTE! GESTION DES CONTRÔLEURS. L’installation ou le retrait du contrôleur nécessite une manipulation prudente. Pour éviter la possibilité de dommages au contrôleur dus à une décharge statique, une sangle de poignet statique mise à la terre à travers une résistance megohm doit toujours être portée lors de la manipulation du contrôleur. Des matériaux d’emballage de protection contre l’ESD doivent également être utilisés lors du transport ou de l’expédition du contrôleur.

WARNING! To prevent damage to the latching mechanism, ensure the handle is in the open position when installing or removing a controller. NEVER hold the handle in the closed position when installing a controller into a shelf.

ATTENTION! Pour éviter d’endommager le mécanisme de verrouillage, assurez-vous que la poignée est en position ouverte lors de l’installation ou du retrait d’un contrôleur. Ne tenez JAMAIS la poignée en position fermée lors de l’installation d’un contrôleur dans une étagère.

Procedure

[ ] 1. Connect an approved grounding strap to your wrist. Attach the other end to a suitable ground.

[ ] 2. Place the controller (provided in the package) in the slot through the front panel dedicated for controller mounting without sliding it completely as shown in Figure 1.25.

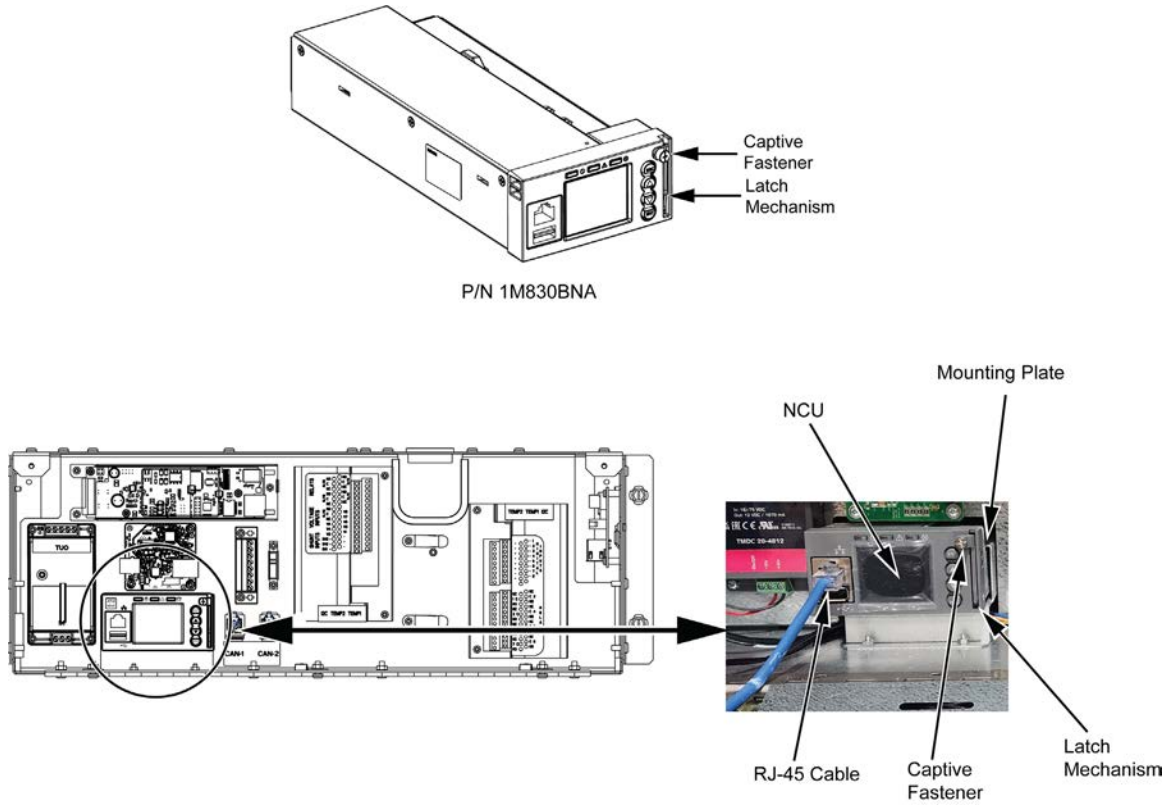
[ ] 3. Loosen the captive fastener securing the latch mechanism to the front of the controller. Pull the latch mechanism away from the controller (this will retract the latch mechanism located on the bottom of the controller). See Figure 1.25.

[ ] 4. Slide the controller completely into its mounting position.

[ ] 5. Push the latch mechanism into the front panel of the controller, and secure by tightening the captive fastener. This locks the controller securely to the shelf. See Figure 1.25.

[ ] 6. Connect the RJ-45 cable from the door assembly to the NCU Ethernet connector. See Figure 1.25.

Figure 1.25 Installing the Controller (P/N 1M830BNA)



[ ] 7. Once the controller is fully booted, the touchscreen will display the login screen.

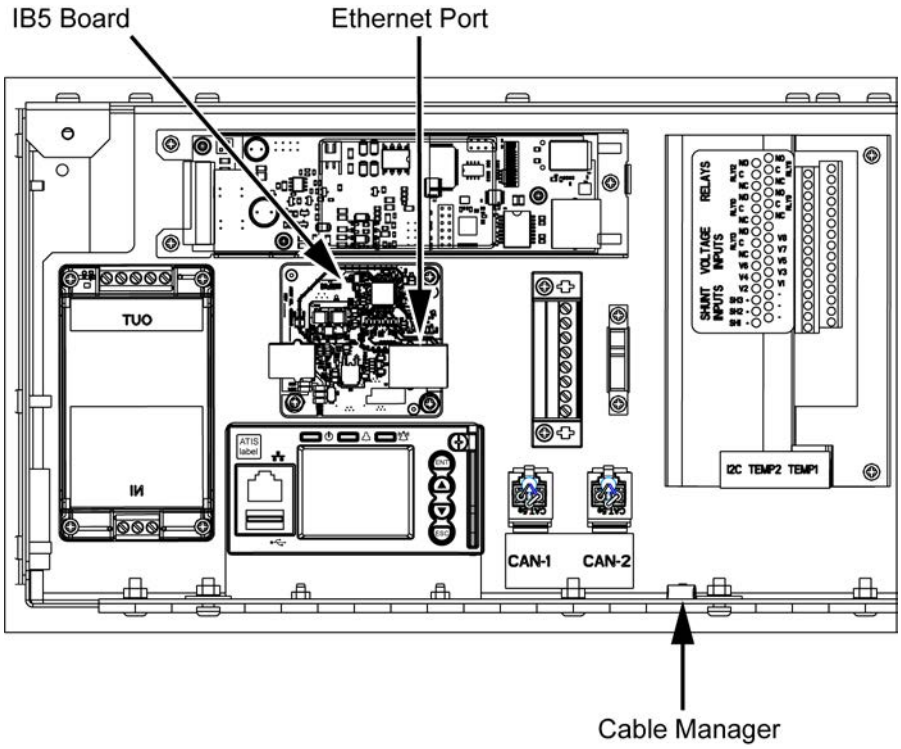
Final Procedure

[ ] 1. After the NCU initializes, ensure that there are no local or remote alarms active on the system.

[ ] 2. Refer to the Retrofit Kit User Manual (UM60172578) to make any required external connections to the main bay control shelf (NCU retrofit shelf), as required. Refer to the NCU controller manual (UM1M830BNA) for programming information.

[ ] 3. Connect the Ethernet cable removed from the LMS Ethernet Port (see Figure 1.6 on page 10) to the IB5 Board Ethernet Port located on the main bay control shelf (NCU retrofit shelf), if required. See Figure 1.26.

Figure 1.26 Connecting the Ethernet Cable



[ ] 4. Dress and secure the cables connected to the main bay control shelf (NCU retrofit shelf) using the cable managers. Ensure the cables cannot be pinched when the door is closed.

[ ] 5. Close the shelf door and secure it by turning the captive screws clockwise.

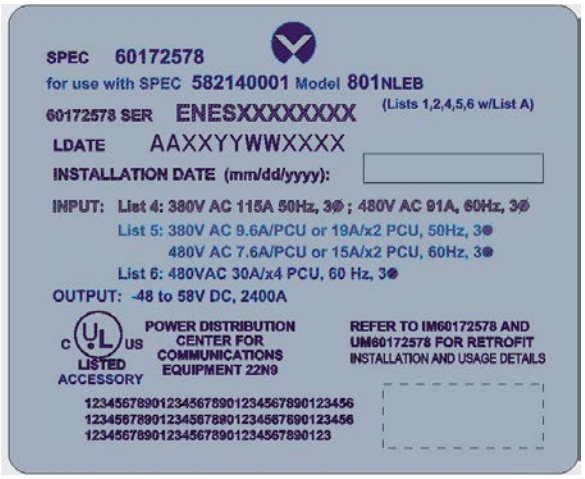
[ ] 6. Ensure that there are no local or remote alarms active on the system.

[ ] 7. Enable the external alarms or notify appropriate personnel that this procedure is finished.

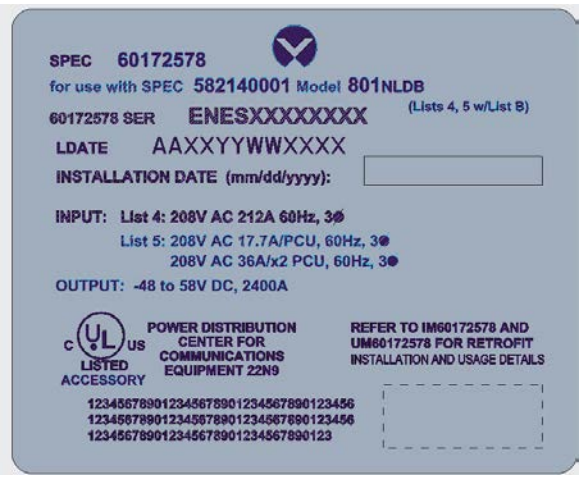
Adhering Labels

[ ] 1. Select the retrofit name plate label based on the retrofitted system input voltage (801NLEB – 380V / 480V Main Power Bay or 801NLDB – 208V Main Power Bay). Use a fine tip permanent marker to write the Installation date in the appropriate field of the label.

Figure 1.27 Labels



Label for NetSure™ 801NLEB DC Power System (380V / 480V Main Power Bay)



Label for NetSure™ 801NLDB DC Power System (208V Main Power Bay)

[ ] 2. Adhere the selected nameplate label above the existing system name plate label or the replacement label adhered in step [ ] 7 on page 15 on the AC panel cover as shown in Figure 1.28.

Figure 1.28 Location for the Label

Procedure to Attach Supplied USB Drive Storage Pouch Near Power System

The kit is provided with a USB drive that contains the controller configuration files loaded into the controller as shipped. Also provided on the USB drive is a controller configuration drawing and all customer documentation. The USB drive is to be stored in the pouch provided. The pouch needs to be attached to a surface near the system by the customer. See also "Updated Customer Documentation Package" on page 29.

[ ] 1. Customer must choose a location near the system to attach the USB drive pouch to.

[ ] 2. Make sure the surface is clean, then peel the backing of the pouch fastener and adhere it to the surface.

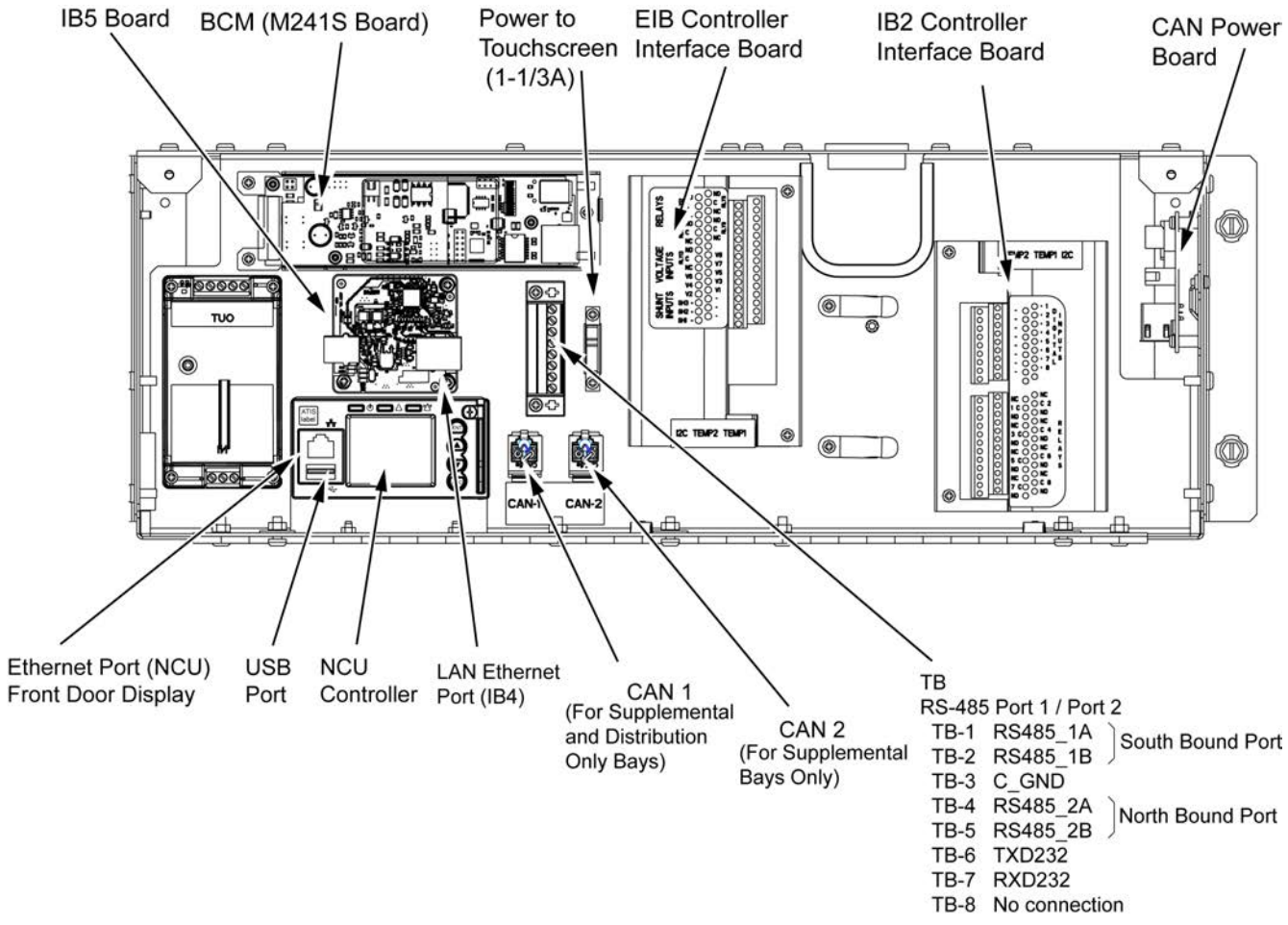
[ ] 3. Attach the pouch to the pouch fastener.

[ ] 4. Store the provided USB drive in the USB drive pouch.

1.7 Main Bay Control Shelf (NCU Retrofit Shelf) Component Locations

Refer to Figure 1.29 for a component location illustration.

Figure 1.29 Component Locations – Main Bay Control Shelf (NCU Retrofit Shelf)



1.8 Local Area Network (LAN) Ethernet Port Connection (IB5 Board)

NOTE! *DO NOT connect your Local Area Network (LAN) to the NCU front panel Ethernet port.*

NOTE! *IB5 boards with a 10M/100M/1G Ethernet port replaced IB4 boards with a 10M/100M Ethernet port. This transition enables the support of connected devices that communicate up to 1G. While both boards are physically interchangeable, the IB5 board does require the NCU to have V1.2.80 or higher software loaded.*

Refer to Figure 1.29 for Ethernet Port connector location.

Default Ethernet Port Parameters (IB5 Board)

IPv4

IP Address: 192.168.1.2
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1

IPv6

IPv6 Address: 20fa:fffd:fffc:fffb:fffa:fff9:fff8:fff7
IPv6 Prefix: 0
IPv6 Gateway: 20fa:1:fffe:ffff:fffe:fffd:ffff:fffe

Procedure

1. An RJ-45 10BaseT jack is provided on the IB5 board for connection into a customer's network. This jack has a standard Ethernet pin configuration scheme, twisted pair. Refer to Figure 1.29 for location and Table 1.7 for pin outs. Use shielded Ethernet cable (grounded at both ends). Note that the IB5 board's RJ-45 jack is connected to chassis ground. Refer to the NCU controller instructions (UM1M830BNA) for operational details.

WARNING! The intra-building port(s) of the equipment or subassembly is suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or subassembly MUST NOT be metallically connected to the interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE, Issue 4) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metallically to OSP wiring.

The intra-building port (RJ-45) of the equipment or subassembly must use shielded intra-building cabling/wiring that is grounded at both ends.

Table 1.7 RJ-45 Ethernet Port Pin Configuration

Port Pin Number	Name	Definition
1	Tx+	Write Signal +
2	Tx-	Write Signal -
3	Rx+	Read Signal +
4	--	no connection
5	--	no connection
6	Rx-	Read Signal -
7	--	no connection
8	--	no connection

2 Updated Customer Documentation Package

Refer to the documents located on the USB drive furnished with the kit for updated customer documentation. This replaces the documentation originally supplied with your system.

The complete new Customer Documentation Package consists of…

USB Drive with All Customer Documentation

Vertiv™ NetSure™ 801 Series

- NCU Controller User Instructions: UM1M830BNA
- Power System "System Application Guide": SAG582140001
- Contact Information Page: Section 4154
- Installation Manual: IM60172578
- User Manual: UM60172578
- Engineering Drawings
  - SD60172578
  - T60172578
- Also provided on the USB drive is a controller configuration drawing and the controller configuration files loaded into the controller as shipped.

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