

SYSTEM OVERVIEW

Description: -48 VDC @ up to 12000 Amperes Power System

The Vertiv™ NetSure™ 7200 DC Power System is an integrated power system containing rectifiers, intelligent control, metering, monitoring, and distribution.

This power system is designed to power a load while charging a positive grounded battery. The power system is designed for operation with the positive output grounded.

This system consists of the following components.

- **Power Bays**

The system consists of one (1) primary power bay and up to two (2) additional secondary power bays. The system can be expanded right or left.

Each power bay can be equipped with up to sixty (60) rectifier modules. The power bay can be ordered factory configured for various AC input options.

The primary power bay contains a front panel touch screen PC connected to an NCU controller. The primary power bay also includes an NCU interface board (IB2) which provides digital inputs, temperature inputs, and relay outputs for internal and external monitoring and alarms. An NCU extended interface board (EIB) is also provided for additional inputs/outputs connections. Also furnished is the IB4 board which provides a second Ethernet port. The Ethernet port located on the NCU Controller's front panel is used to connect the front panel touch screen PC directly to the NCU. The Ethernet port located on the IB4 board can be used to connect the NCU to your Local Area Network (LAN) for remote access. An indicator is visible from the outside of the primary power bay (at the top) which illuminates if a critical or major alarm condition occurs. An SM-DU module is mounted in the primary power bay for connection of the internal load shunts provided in each power bay. The SM-DU also provides an additional external shunt monitoring input.

Each secondary power bay contains a secondary control module.

Rectifier Modules:

The system contains rectifier modules, which provide load power, battery float current, and battery recharge current during normal operating conditions. Refer to the Rectifier Instructions (UM1R483500e) for more information.

NCU (Vertiv™ NetSure™ Control Unit) Controller:

The controller provides power system control, rectifier control (including a charge control function), metering functions, monitoring functions, and local/remote alarm functions. The controller also supports rectifier temperature compensation if the system is equipped with a temperature probe(s). Temperature probe(s) may also be designated to monitor ambient temperature and/or battery temperature. The controller also provides data acquisition, system alarm management, and advanced battery and energy management. The controller contains a color LCD display and keypad for local access. The controller provides an Ethernet port and comes with comprehensive webpages for remote access. The controller has SNMP v3 capability for remote system management. The controller supports software upgrade via its USB port. Refer to the NCU Controller Instructions (UM1M830BNA) for more information.

Note: *In this system, the NCU Ethernet port is connected to a front panel touch screen PC for local access to the NCU webpages. An IB4 (second Ethernet port board) is also furnished which provides a connection point for a remote monitoring Ethernet connection.*

- **Distribution Bay**

The system can consist of up to five (5) distribution bays.

The system can be expanded right or left and may be top or bottom fed.

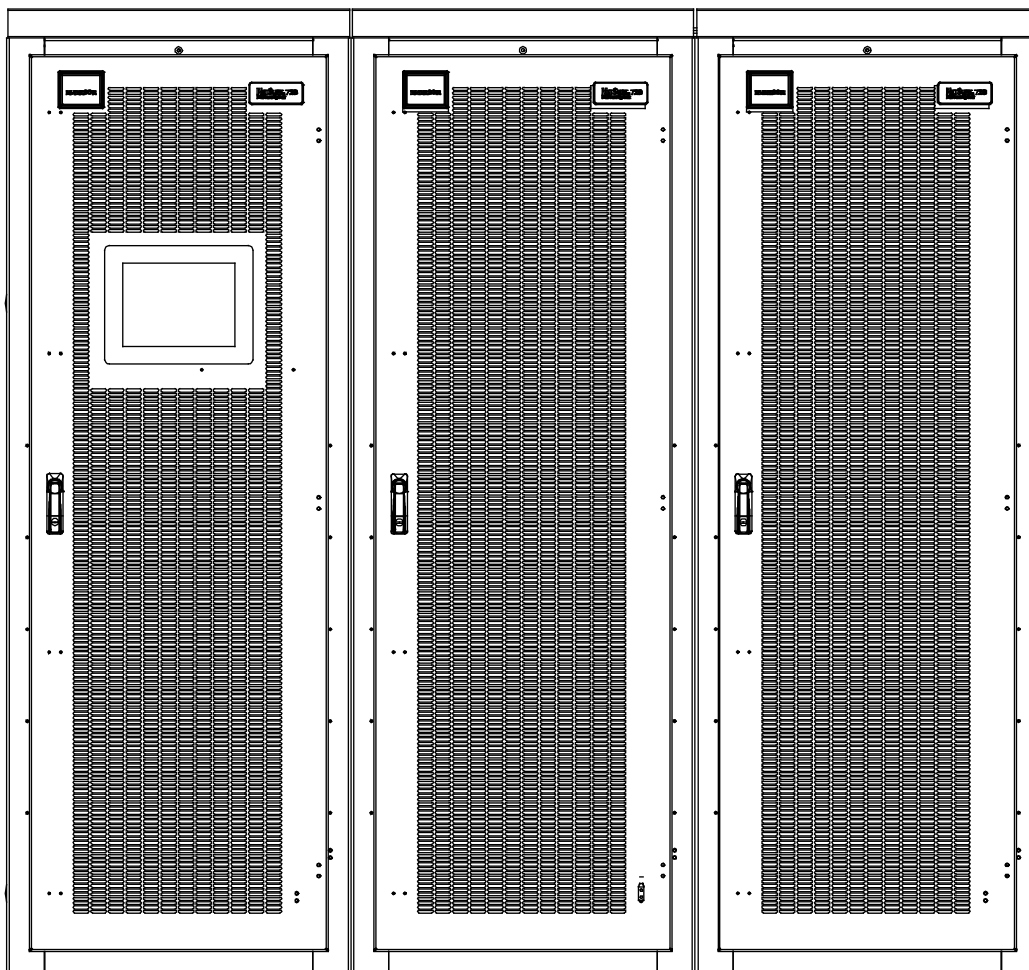
Each distribution bay contains an SM-DU+ for connection of the internal load shunts and FA signals provided in the various distribution panels, and for interface to the NCU Controller. An optional SM-DU+ is available for connection of additional load shunts and FA signals. A kit is available which allows the optional SM-DU+ to be mounted external to the power system.

An indicator is visible from the outside of the distribution bay (at the top) which illuminates if a fuse or circuit breaker in the bay opens.

Each distribution bay provides 39 RU of vertical rack space for mounting a variety of distribution panels. Distribution panel options include a TPL fuse panel, a TPH fuse panel, a bullet nose type panel that accepts bullet nose circuit breakers and TPS/TLS fuseholders, and two types of GJ/218 circuit breaker panels.

- **Transition Bay to Vertiv™ NetSure™ 802 (582140000 List 1 or List 11)**

Allows the 582127200 distribution bay's -48 VDC internal top mount bus to be connected to the internal rear mount -48 VDC bus on a Spec. No. 582140000 List 1 or List 11.



Primary Power Bay

Secondary Power Bay

Distribution Bay

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General Specifications

See detailed specifications on page 87.

Family:	Vertiv™ NetSure™
System Spec. No.:	582127200
System Model:	7200
System DC Output Capacity:	12000 A
Power Bay AC Input Ratings:	<u>582127200 List 1, 2 (20 Input Feeds):</u> 208 VAC / 240 VAC, 50 Hz / 60 Hz, 3-Phase, 31.6 A / 27.2 A. <u>582127200 List 3, 4 (4 Input Feeds):</u> 208 VAC / 240 VAC, 50 Hz / 60 Hz, 3-Phase, 153 A / 132 A. <u>582127200 List 5, 6 (10 Input Feeds):</u> 208 VAC / 240 VAC, 50 Hz / 60 Hz, 3-Phase, 63 A / 54.4 A. <u>582127200 List 7, 8 (20 Input Feeds):</u> 208 VAC / 240 VAC, 50 Hz / 60 Hz, 1-Phase, 53.4 A / 46 A. <u>582127200 List 11, 12 (20 Input Feeds):</u> 277 VAC / 480 VAC, 50 Hz / 60Hz, 3-Phase (3L+N+PE), 13.5 A. <u>582127200 List 13, 14 (4 Input Feeds):</u> 277 VAC / 480 VAC, 50 Hz / 60Hz, 3-Phase (3L+N+PE), 67.5 A. <u>582127200 List 15, 16 (10 Input Feeds):</u> 277 VAC / 480 VAC, 50 Hz / 60Hz, 3-Phase (3L+N+PE), 27.0 A. <u>582127200 List 1, 2, 3, 4, 5, 6, 7, 8:</u> Operating range 176 VAC to 264 VAC Acceptable input frequency range is 45 Hz to 65 Hz. <u>582127200 List 11, 12, 13, 14, 15, 16:</u> Operating range 176 VAC to 305 VAC. Acceptable input frequency range is 45 Hz to 65 Hz.
Power Bay DC Output Ratings:	<u>582127200 List 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16:</u> -48 VDC to -58 VDC, 4000 A, 210 kW maximum.
1R483200e Rectifier Rating:	See UM1R483500e.
1R483500e Rectifier Rating:	See UM1R483500e.
Distribution Bay Output Capacity:	<u>582127200 List 20:</u> 6000 A.
System Agency Approval:	
Power Bay:	UL 60950 Listed ("c UL"), NEBS (pending)
Distribution Bay	UL 1801 Listed ("c UL"), NEBS
Framework Type:	Enclosure
Power Bay:	
Width:	30 Inches
Depth:	30 Inches
Height:	84 Inches
Access:	Front and Rear Access for Installation and Maintenance, Front for Operation.
Distribution Bay:	
Width:	30 Inches
Depth:	30 Inches
Height:	84 Inches
Access:	Front and Rear Access for Installation and Maintenance, Front for Operation.
Maximum Number of Power Bays per System:	3
Maximum Number of Distribution Bays per System:	5

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Control:	Microprocessor
Color:	Bay and Module Faceplates: Textured Dark Gray Module Mounting Shelf and Module Bodies: Bright Zinc Plating / Textured Dark Gray
Environment:	0°C to +40°C (+32°F to +104°F)

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MAIN COMPONENTS ILLUSTRATIONS

Primary Power Bay

See Figure 1.

List	Description	AC Input	AC Feeds per Bay	Internal Top Mount Power Bus and Return Bus
1	4000 A Primary Power Bay	208 VAC / 240 VAC, 3-Phase	20	4000 A: standard 8000 A: standard plus (2) P/N 557824 12000 A: standard plus (2) P/N 557823
3	4000 A Primary Power Bay	208 VAC / 240 VAC, 3-Phase	4	
5	4000 A Primary Power Bay	208 VAC / 240 VAC, 3-Phase	10	
7	4000 A Primary Power Bay	208 VAC / 240 VAC, 1-Phase	20	
11	4000 A Primary Power Bay	277 VAC / 480 VAC, 3-Phase (3L+N+PE)	20	
13	4000 A Primary Power Bay	277 VAC / 480 VAC, 3-Phase (3L+N+PE)	4	
15	4000 A Primary Power Bay	277 VAC / 480 VAC, 3-Phase (3L+N+PE)	10	

Secondary Power Bay

See Figure 2.

List	Description	AC Input	AC Feeds per Bay	Internal Top Mount Power Bus and Return Bus
2	4000 A Secondary Power Bay	208 VAC / 240 VAC, 3-Phase	20	4000 A: standard 8000 A: standard plus (2) P/N 557824 12000 A: standard plus (2) P/N 557823
4	4000 A Secondary Power Bay	208 VAC / 240 VAC, 3-Phase	4	
6	4000 A Secondary Power Bay	208 VAC / 240 VAC, 3-Phase	10	
8	4000 A Secondary Power Bay	208 VAC / 240 VAC, 1-Phase	20	
12	4000 A Secondary Power Bay	277 VAC / 480 VAC, 3-Phase (3L+N+PE)	20	
14	4000 A Secondary Power Bay	4277 VAC / 480 VAC, 3-Phase (3L+N+PE)	4	
16	4000 A Secondary Power Bay	277 VAC / 480 VAC, 3-Phase (3L+N+PE)	10	

Distribution Bay

See Figure 3.

List	Description	Internal Top Mount Power Bus	Optional Internal Top Mount Return Bus
20	6000 A Distribution Bay, 39 RU	4000 A: standard 8000 A: standard plus P/N 557828 12000 A: standard plus P/N 557827	4000 A: P/N 557829 8000 A: P/N 557830 12000 A: P/N 557831
A	1200 A TPL Fuse Panel (2-positions), 800 A Max. Fuse Value, 3 RU		
B	1200 A TPH Fuse Panel (4-positions), 600 A Max. Fuse Value, 6 RU		
C	600 A TPS/TLS/LEL Bullet Style Fuse / Circuit Breaker Panel (24-positions), 5 RU		
D	800 A GJ Circuit Breaker Panel (4-positions), 800 A Max. Breaker Value (Single 800 A Device), 4 RU		
E	1600 A GJ Circuit Breaker Panel (8-positions), 800 A Max. Breaker Value (Single 800 A Device), 7 RU		

Transition Bay to Vertiv™ NetSure™ 802 (582140000 List 1 or List 11)

See Figure 4.

List	Description
26	Allows the 582127200 distribution bay's -48 VDC internal top mount bus to be connected to the internal rear mount -48 VDC bus on a Spec. No. 582140000 List 1 or List 11.

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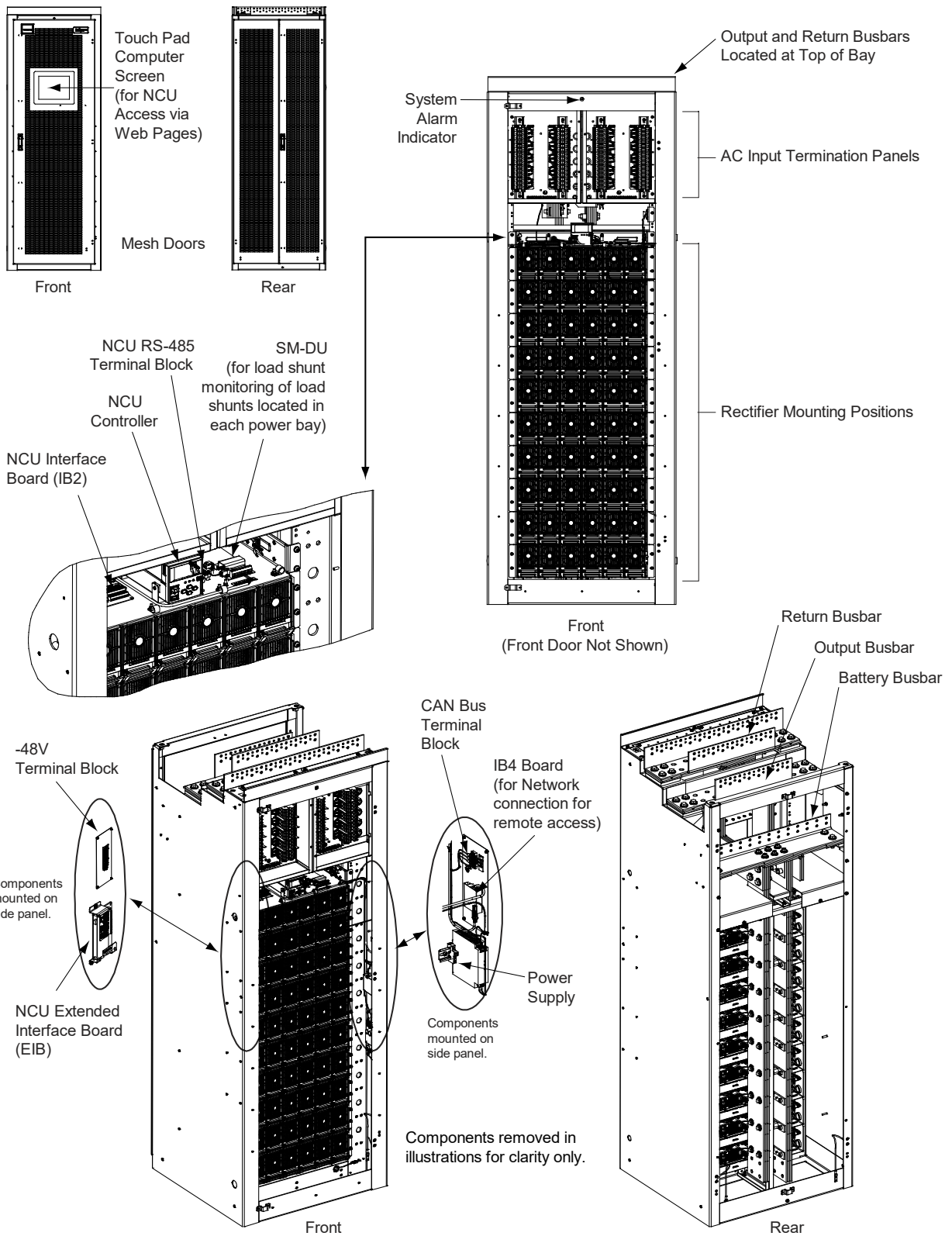


Figure 1
Primary Power Bay (List 1, 3, 5, 7, 11, 13, 15)

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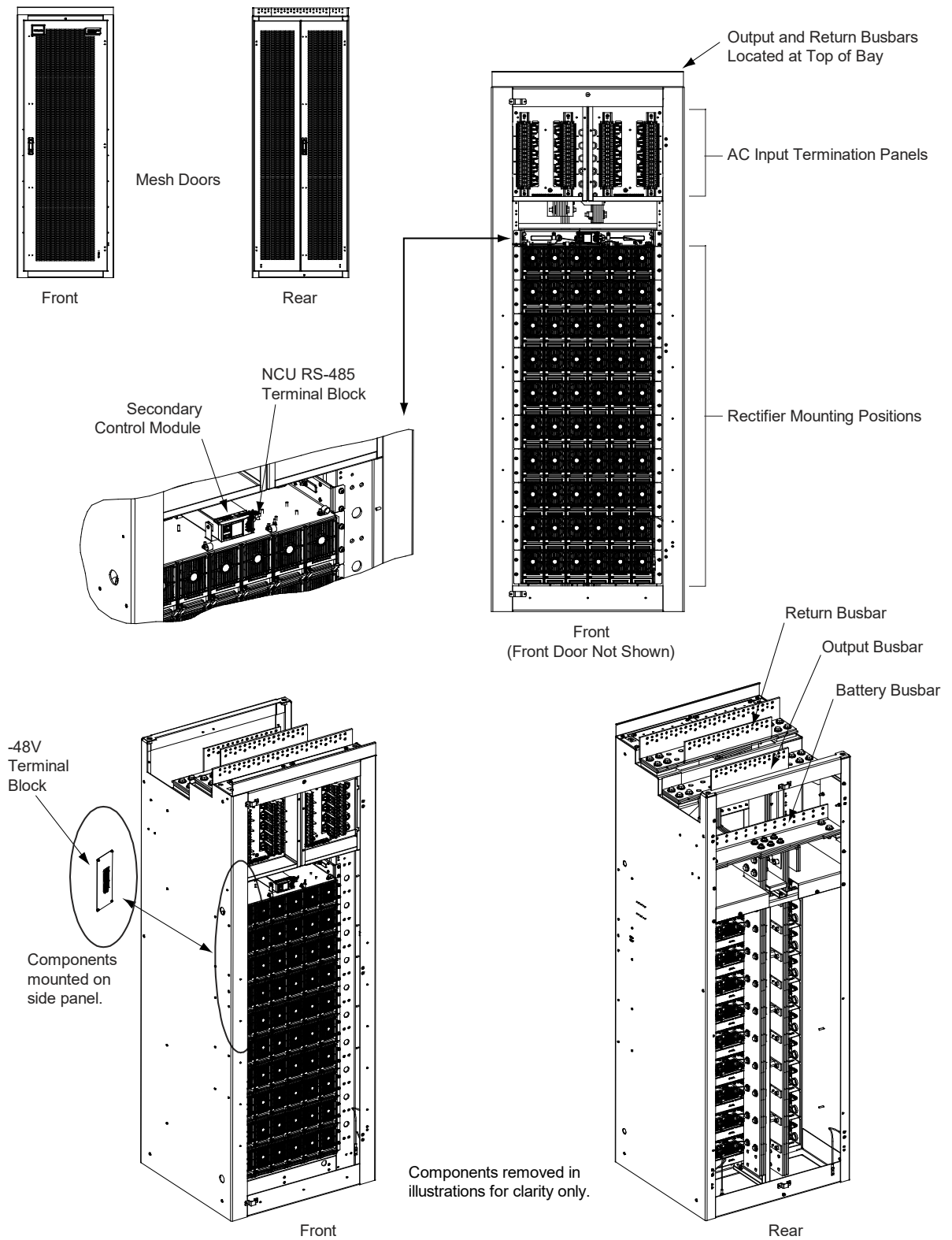


Figure 2
Secondary Power Bay (List 2, 4, 6, 8, 12, 14, 16)

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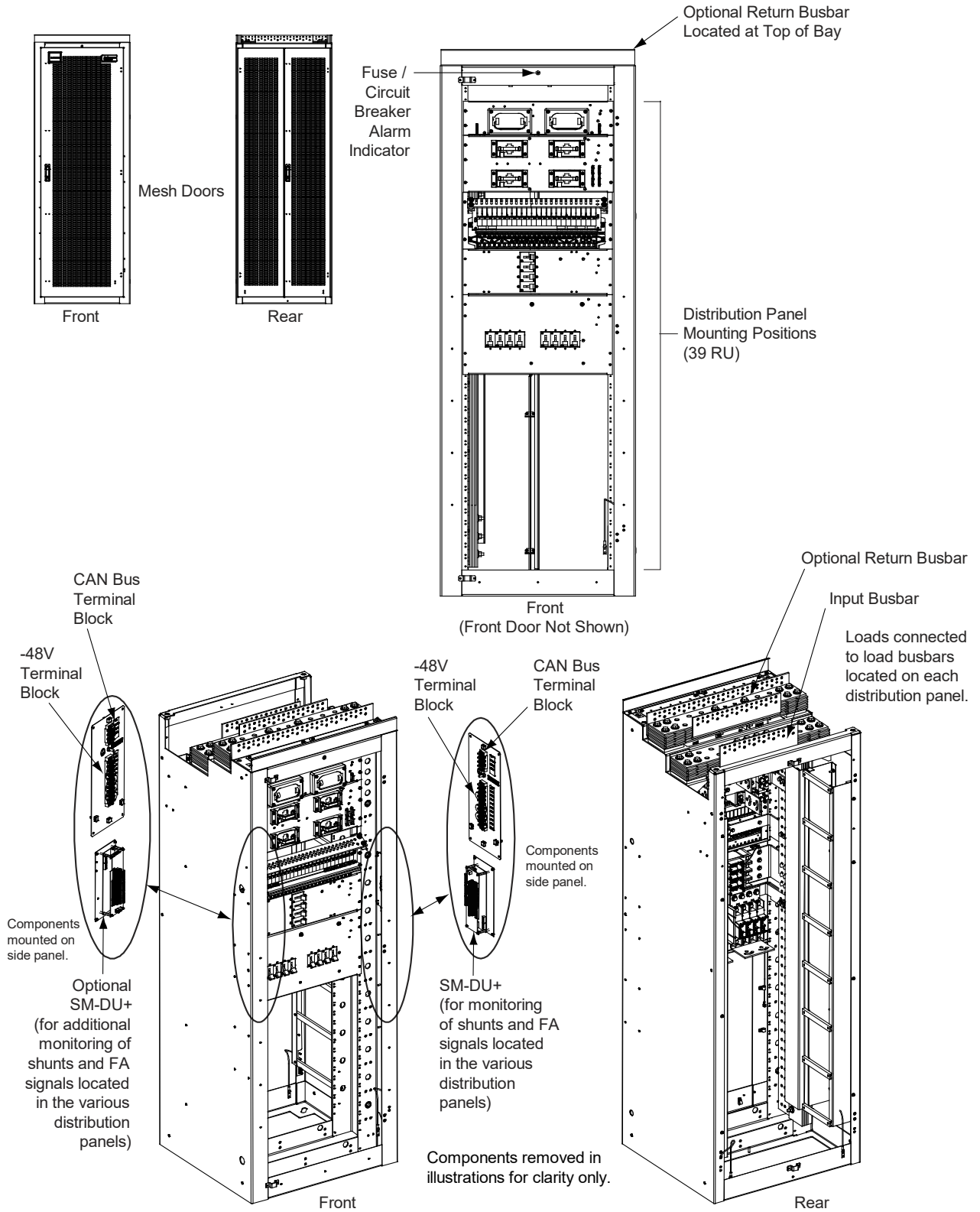


Figure 3
Distribution Bay (List 20)

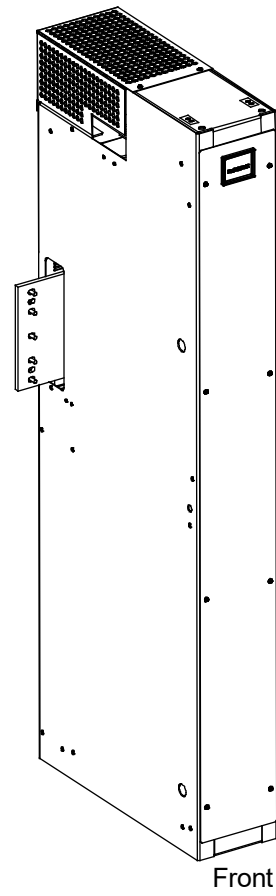
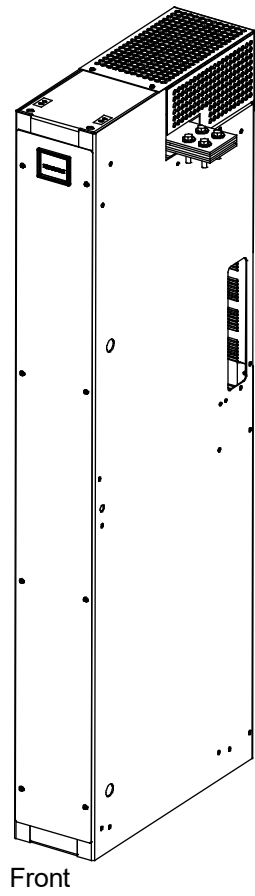


Figure 4
Transition Bay (List 26)

LIST DESCRIPTIONS

List Numbers

List 1: Primary Power Bay, 20 AC Feeds (208 VAC / 240 VAC, 3-Phase)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).
- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs. and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).

List 2: Secondary Power Bay, 20 AC Feeds (208 VAC / 240 VAC, 3-Phase)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).

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- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).
- 8) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

List 3: Primary Power Bay, 4 AC Feeds (208 VAC / 240 VAC, 3-Phase)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires four (4) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).
- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs. and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order AC input lugs as required per [Table 9](#).
- 7) Order battery lugs as required per [Table 9](#).
- 8) Order bay frame grounding lugs as required per [Table 8](#).

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List 4: Secondary Power Bay, 4 AC Feeds (208 VAC / 240 VAC, 3-Phase)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in a 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order AC input lugs as required per [Table 9](#).
- 7) Order battery lugs as required per [Table 9](#).
- 8) Order bay frame grounding lugs as required per [Table 8](#).
- 9) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

List 5: Primary Power Bay, 10 AC Feeds (208 VAC / 240 VAC, 3-Phase)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires ten (10) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).
- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs. and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).

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- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).

List 6: Secondary Power Bay, 10 AC Feeds (208 VAC / 240 VAC, 3-Phase)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).
- 8) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

List 7: Primary Power Bay, 20 AC Feeds (208 VAC / 240 VAC, 1-Phase)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 208 VAC / 240 VAC, 1-Phase, input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).

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- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs. and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).

List 8: Secondary Power Bay, 20 AC Feeds (208 VAC / 240 VAC, 1-Phase)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 208 VAC / 240 VAC, 3-Phase, input feeds.
- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).
- 8) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

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List 11: Primary Power Bay, 20 AC Feeds (277 VAC / 480 VAC, 3-Phase, 3L+N+PE)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).
- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs, and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).

List 12: Secondary Power Bay, 20 AC Feeds (277 VAC / 480 VAC, 3-Phase, 3L+N+PE)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), input feeds.
- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).

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- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).
- 8) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

List 13: Primary Power Bay, 4 AC Feeds (277 VAC / 480 VAC, 3-Phase, 3L+N+PE)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires four (4) nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).
- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs. and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order AC input lugs as required per [Table 9](#).
- 7) Order battery lugs as required per [Table 9](#).
- 8) Order bay frame grounding lugs as required per [Table 8](#).

List 14: Secondary Power Bay, 4 AC Feeds (277 VAC / 480 VAC, 3-Phase, 3L+N+PE)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), input feeds.

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- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order AC input lugs as required per [Table 9](#).
- 7) Order battery lugs as required per [Table 9](#).
- 8) Order bay frame grounding lugs as required per [Table 8](#).
- 9) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

List 15: Primary Power Bay, 10 AC Feeds (277 VAC / 480 VAC, 3-Phase, 3L+N+PE)

Features

- ◆ Provides one (1) 4000 A primary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires ten (10) nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), input feeds.
- ◆ Includes the NCU Controller, Spec. No. 1M830DNA.
- ◆ Includes a door mounted touch pad computer screen for NCU access via web pages.
- ◆ Includes an IB4 board which provides a Network connection point for NCU remote access.
- ◆ Includes the IB2 NCU interface board (provides eight (8) programmable form C- relay outputs, eight (8) programmable binary inputs, and two (2) temperature inputs).
- ◆ Includes the EIB NCU extended interface board (provides five (5) programmable form-C relay outputs, two (2) temperature inputs, three (3) shunt inputs, and eight (8) battery midpoint inputs).
- ◆ Includes an SM-DU (provides load shunt monitoring for up to three power bays).
- ◆ Expandable either left or right.

Restrictions

One primary power bay per system.

Ordering Notes

- 1) Order one (1) primary power bay per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).

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- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).

List 16: Secondary Power Bay, 10 AC Feeds (277 VAC / 480 VAC, 3-Phase, 3L+N+PE)

Features

- ◆ Provides one (1) 4000 A secondary power bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides sixty (60) rectifier module mounting positions.
- ◆ Requires twenty (20) nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), input feeds.
- ◆ Includes the secondary control module, P/N 1M830BNA.
- ◆ Expandable either left or right.

Restrictions

Up to two (2) secondary power bays per system.

Ordering Notes

- 1) Order up to two (2) secondary power bays per system.
- 2) Order up to sixty (60) rectifier modules per power bay, as required, P/N [1R483500e](#) or [1R483200e](#).
- 3) The bay is provided with a 4000 A -48 VDC bus and return bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558005](#) (one for each polarity).
- 4) To increase the internal top mount -48 VDC bus and return bus to 8000 A, order one (1) P/N [557824](#) for the -48 VDC bus and one (1) P/N [557824](#) for the return bus. To tie the 8000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558006](#) (one for each polarity).
- 5) To increase the internal top mount -48 VDC bus and return bus to 12000 A, order one (1) P/N [557823](#) for the -48 VDC bus and one (1) P/N [557823](#) for the return bus. To tie the 12000 A -48 VDC bus and return bus to the same type of bus on an adjoining bay, order two (2) P/N [558007](#) (one for each polarity).
- 6) Order battery lugs as required per [Table 9](#).
- 7) Order bay frame grounding lugs as required per [Table 8](#).
- 8) Order an IB2 NCU interface board (P/N 555286) for this bay if emergency shutdown (ESTOP) is required.

List 20: Distribution Bay, 39 RU

Features

- ◆ Provides one (1) 6000 A distribution bay.
- ◆ Mounted in an 84"H x 30"W x 30"D enclosure.
- ◆ Provides 39 RU of vertical rack space for mounting a variety of distribution panels.
- ◆ Includes an SM-DU+ (provides monitoring of the distribution panel shunts and FA signals). The SM-DU+ provides twenty-five (25) shunt monitoring inputs and fourteen (14) FA monitoring inputs.
- ◆ Expandable either left or right.

Restrictions

Up to five (5) distribution bays per system.

Ordering Notes

- 1) Order up to five (5) distribution bays per system.
- 2) Order distribution panels as required per List [A](#), [B](#), [C](#), [D](#), and [E](#) (maximum height available per bay is 39 RU).
- 3) Order fuses and/or circuit breakers as required per List [A](#), [B](#), [C](#), [D](#), and [E](#).
- 4) The bay is provided with a 4000 A -48 VDC bus internally mounted at the top of the bay. To tie the 4000 A -48 VDC bus to the same type of bus on an adjoining bay, order one (1) P/N [558005](#).

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- 5) To increase the internal top mount -48 VDC bus to 8000 A, order one (1) P/N [557828](#). To tie the 8000 A -48 VDC bus to the same type of bus on an adjoining bay, order one (1) P/N [558006](#).
- 6) To increase the internal top mount -48 VDC bus to 12000 A, order one (1) P/N [557827](#). To tie the 12000 A -48 VDC bus to the same type of bus on an adjoining bay, order one (1) P/N [558007](#).
- 7) Order an optional 4000 A internal top mount return bus, P/N [557829](#), as required. To tie the 4000 A return bus to the same type of bus on an adjoining bay, order one (1) P/N [558005](#).
- 8) Order an optional 8000 A internal top mount return bus, P/N [557830](#), as required. To tie the 8000 A return bus to the same type of bus on an adjoining bay, order one (1) P/N [558006](#).
- 9) Order an optional 12000 A internal top mount return bus, P/N [557831](#), as required. To tie the 12000 A return bus to the same type of bus on an adjoining bay, order one (1) P/N [558007](#).
- 10) Order load distribution lugs as required per List [A](#), [B](#), [C](#), [D](#), and [E](#).
- 11) Order an optional SM-DU+, P/N 557136, as required. The SM-DU+ provides twenty-five (25) shunt monitoring inputs and fourteen (14) FA monitoring inputs.
- 12) Order an optional SM-DU+ remote mounting kit, P/N 562974, as required. The kit provides a 10-position terminal block and wire harness (for board power and CAN bus connection) for mounting P/N 557136 optional SM-DU+ external to the power system.

List 26: Transition Bay to Vertiv™ NetSure™ 802 (582140000 List 1 or List 11)

Features

- ◆ Allows the 582127200 distribution bay's -48 VDC internal top mount bus to be connected to the internal rear mount -48 VDC bus on a Spec. No. 582140000 List 1 or List 11.

Restrictions

For use with 582140000 List 1 and 11 only.

The transition bay is for adding 582127200 distribution bays to a 582140000 power system only.

Ordering Notes

- 1) Order as required.

Distribution Panels

List A: -48V Distribution Panel (without Return Busbar),

(2) TPL Fuse Positions

Features

- ◆ 3 RU high distribution panel.
- ◆ Two (2) -48V distribution fuse mounting positions (70 A to 800 A TPL type fuses).
- ◆ Includes shunts (800 A / 25 mV). Each shunt is equipped with 12' shunt leads for connection to SM-DU+.
- ◆ Includes fuse alarm interface board (541183).
- ◆ Includes 12' fuse alarm leads for connection to SM-DU+ and return bus.
- ◆ Does NOT include a return busbar.

Restrictions

1200 A maximum capacity (800 A maximum fuse value).

Load should not exceed 80% of device rating

(except for an 800 A fuse which should not exceed 75% of device rating).

Ordering Notes

- 1) Specify distribution panel location in bay.
- 2) Order fuses as required per [Table 1](#). Order replacement alarm fuses (18/100 A) per [Table 11](#).
- 3) Order load lugs (2-hole, 3/8" bolt clearance holes, 1" centers) as required for each distribution position per [Table 22](#).

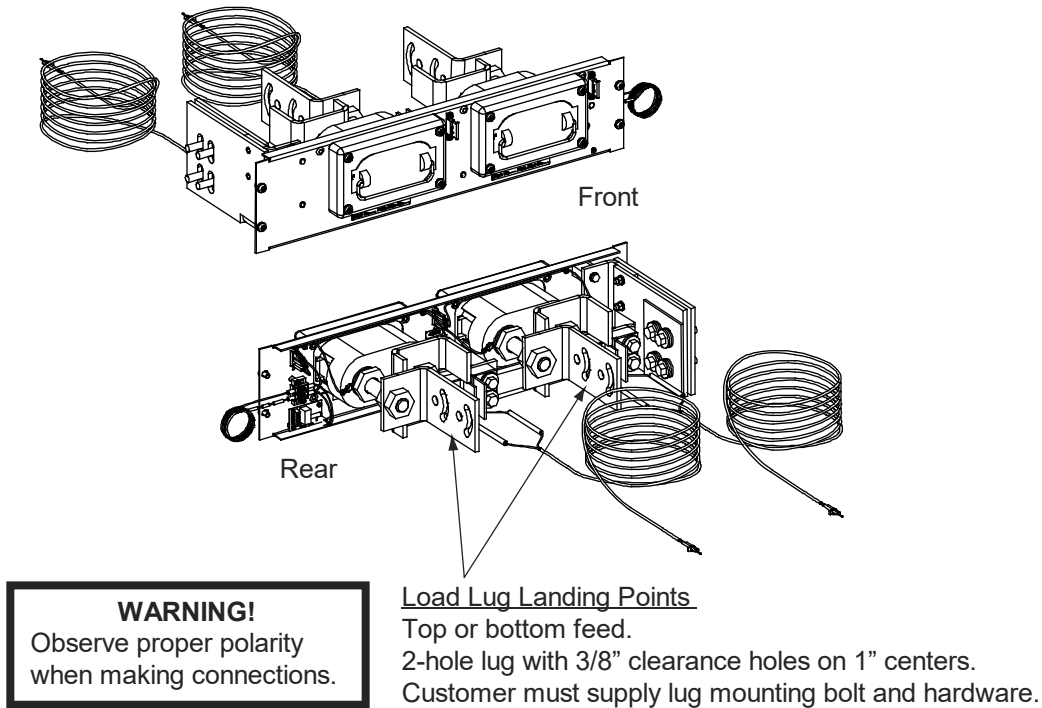


Figure 5
List A

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

List B: -48V Distribution Panel (without Return Busbar), (4) TPH Fuse Positions

Features

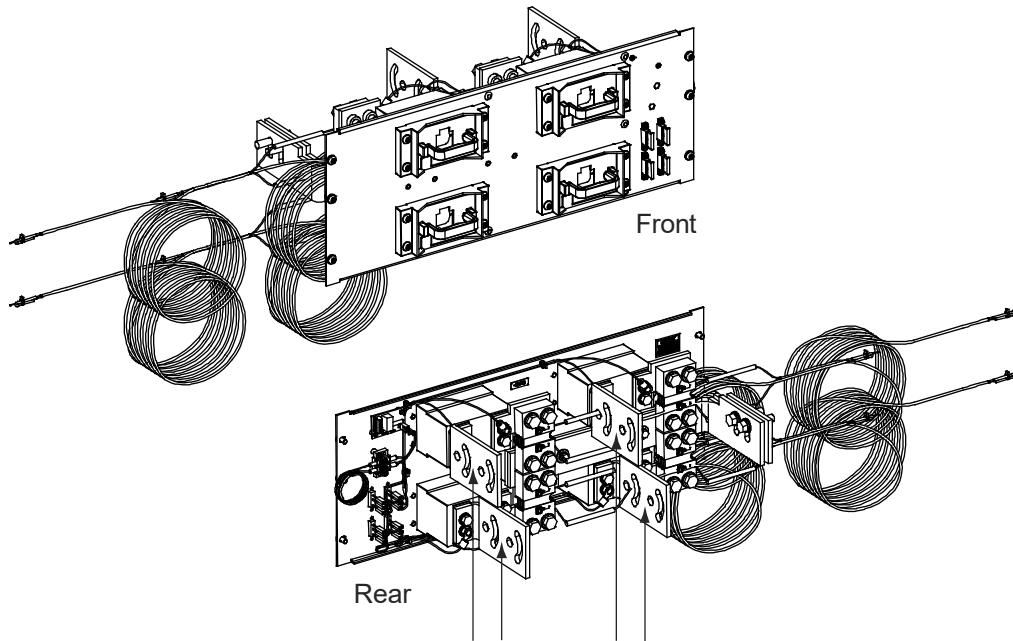
- ◆ 6 RU high distribution panel.
- ◆ Four (4) -48V distribution fuse mounting positions (70 A to 600 A TPH type fuses).
- ◆ Includes shunts (800 A / 25 mV). Each shunt is equipped with 12' shunt leads for connection to SM-DU+.
- ◆ Includes fuse alarm interface board (541183).
- ◆ Includes 12' fuse alarm leads for connection to SM-DU+ and return bus.
- ◆ Does NOT include a return busbar.

Restrictions

1200 A maximum capacity (600 A maximum fuse value).

Ordering Notes

- 1) Specify distribution panel location in bay.
- 2) Order fuses as required per [Table 1](#). Order replacement alarm fuses (18/100 A) per [Table 11](#).
- 3) Order load lugs (2-hole, 3/8" bolt clearance holes, 1" centers) as required for each distribution position per [Table 22](#).



WARNING!
Observe proper polarity
when making connections.

Load Lug Landing Points

Top or bottom feed.

2-hole lug with 3/8" clearance holes on 1" centers.

Customer must supply lug mounting bolt and hardware.

Figure 6
List B

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

List C: -48V Distribution Panel (with Return Busbar), (24) Bullet/TPS/TLS Circuit Breaker/Fuse Positions

Features

- ◆ 5 RU high distribution panel.
- ◆ Twenty-four (24) -48V load distribution fuse / circuit breaker mounting positions (3 A to 100 A TPS/TLS type fuses, 1 A to 250 A bullet nose type circuit breakers).
- ◆ Includes 12' shunt leads for connection to SM-DU+.
- ◆ Includes fuse alarm interface board (541183).
- ◆ Includes 12' fuse alarm leads for connection to SM-DU+ and return bus.
- ◆ Includes a return busbar.

Restrictions

600 A maximum capacity.

Must always be mounted at top of panel stack in bay.

Unless otherwise specified fuses and/or circuit breakers are mounted from left to right, starting with the highest capacity and working to the lowest capacity.

Caution: *A circuit breaker with a rating greater than 100 A SHALL HAVE an empty mounting position between it and any other overcurrent protective device.*

Ordering Notes

- 1) Specify distribution panel location in bay.
- 2) Order circuit breakers as required per [Table 3](#) or [Table 4](#).
- 3) Order fuses as required per [Table 5](#). Also order one (1) P/N 117201 bullet nose type fuseholder per fuse ordered. Order replacement alarm fuses (18/100 A) per [Table 11](#).
- 4) Order 6-position GMT fuse block P/N [549017](#) and fuses per [Table 6](#) as required.
- 5) Order load lugs (2-hole, 1/4" bolt clearance holes, 5/8" centers) as required for each distribution position per [Table 21](#).
- 6) Order lug adapters and lug hardware kits as required per "Busbar Adapter Kits for Use with List C" on page 44. (Straight return busbar in kits 545405 and 545571 may not be installed on List C return busbar. Instead, connect return cables to return busbar at top of cabinet.)

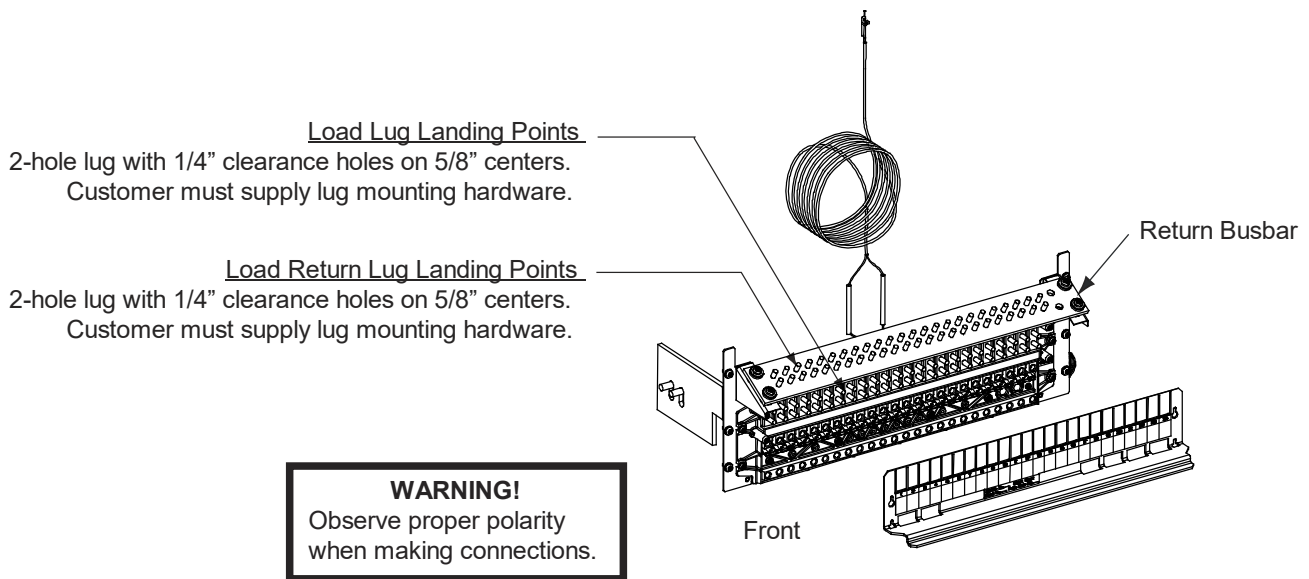


Figure 7
List C

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

List D: -48V Distribution Panel (without Return Busbar), (4) GJ/218 Circuit Breaker Positions

Features

- ◆ 4 RU high distribution panel.
- ◆ Four (4) -48V load distribution circuit breaker mounting positions (100 A to 800 A GJ/218 type circuit breakers).
- ◆ Includes 12' shunt leads for connection to SM-DU+.
- ◆ Includes fuse alarm interface board (541183).
- ◆ Includes 12' fuse alarm leads for connection to SM-DU+ and return bus.
- ◆ Does NOT include a return busbar.
- ◆ Includes factory-installed blank cover kit BMY2300105/1 for each unfilled breaker position.

Restrictions

800 A maximum capacity (800 A maximum circuit breaker value, single 800 A device).

- (4) 100 A to 250 A.
- (2) 100 A to 250 A and (1) 300 A or 400 A.
- (1) 600 A.
- (1) 800 A.

Ordering Notes

- 1) Specify distribution panel location in bay.
- 2) Order circuit breakers and associated mounting kits as required per [Table 7](#).
- 3) Order load lugs (2-hole, 3/8" bolt clearance holes, 1" centers) as required for each distribution position per [Table 22](#).

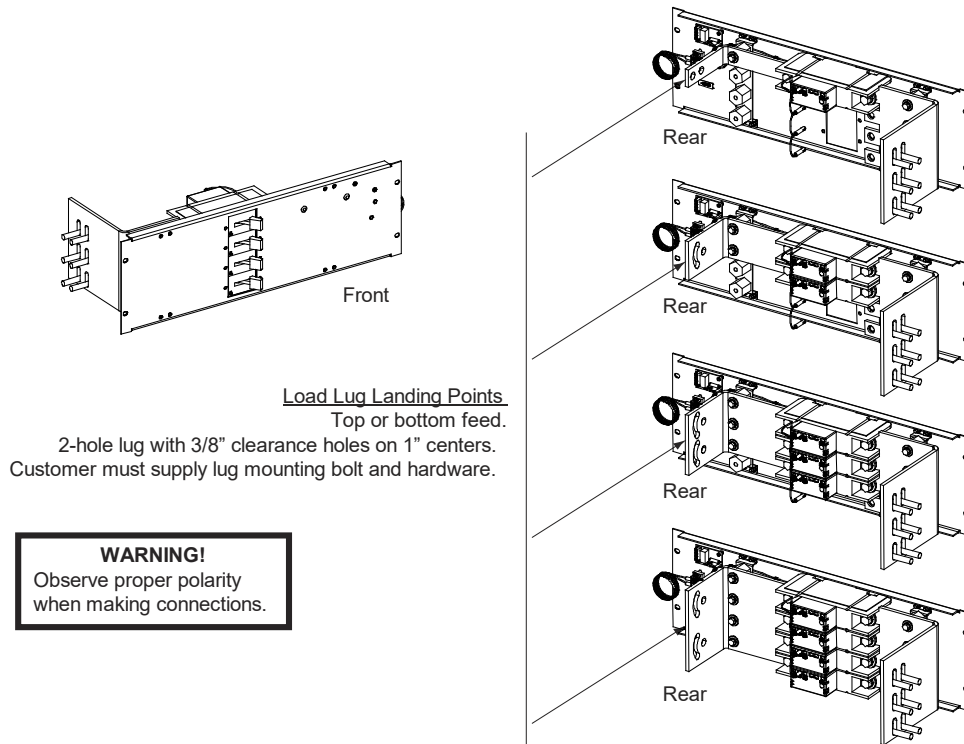


Figure 8
List D

ACCESSORY DESCRIPTIONS

Rectifiers

Rectifier Module, P/N 1R483500e

Features

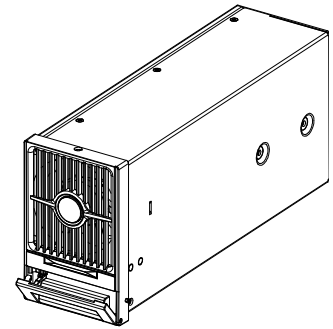
- ◆ Provides one (1) Model R48-3500e, Spec. No. 1R483500e, 3500 watt / -48 volt rectifier module.
- ◆ Refer to the Rectifier Instructions (UM1R483500e) for more information.

Restrictions

Each power bay holds up to sixty (60) rectifier modules.

Ordering Notes

- 1) Order by P/N 1R483500e as required.



Rectifier Module, P/N 1R483200e

Features

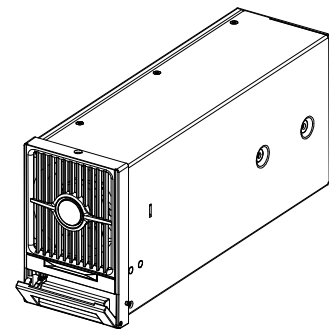
- ◆ Provides one (1) Model R48-3200e, Spec. No. 1R483200e, 3200 watt / -48 volt rectifier module.
- ◆ Refer to the Rectifier Instructions (UM1R483500e) for more information.

Restrictions

Each power bay holds up to sixty (60) rectifier modules.

Ordering Notes

- 1) Order by P/N 1R483200e as required.



Distribution Bay Blank Cover Panels

Features

- ◆ Covers unused distribution panel mounting positions.

Ordering Notes

- 1) Order as required.
 - P/N 562895, 1 RU Cover Panel
 - P/N 562896, 2 RU Cover Panel
 - P/N 562897, 3 RU Cover Panel
 - P/N 562898, 4 RU Cover Panel
 - P/N 562899, 5 RU Cover Panel
- 2) Kit P/N 563232 provides mounting hardware for each panel.

Return Bar, 45 Degree Landing Points

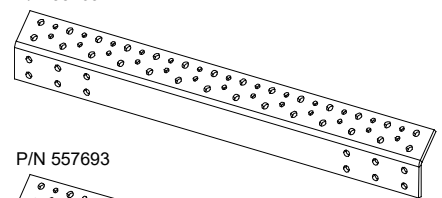
Features

- ◆ Allows for connection when top clearance is an issue.
- ◆ Allows for multiple connections of two-hole lugs with 3/8" clearance holes on 1" centers and 1/4" clearance holes on 5/8" centers.

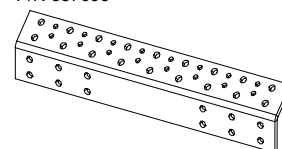
Ordering Notes

- 1) Order as required.
 - Return Bus (longer bar), P/N 557692
 - Return Bus (shorter bar), P/N 557693
 - -48V Bus, P/N 557694

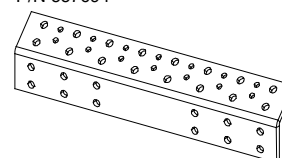
P/N 557692



P/N 557693



P/N 557694



Internal Top Mount -48 VDC Power Bus Assemblies, Power Bays

4000 A

Features

- ◆ Provides a 4000 A, -48 VDC power bus factory mounted at the inside top of a power bay.
- ◆ Enables a continuous -48 VDC bus along the top of all bays.

Ordering Notes

- 1) No action required. This bus assembly is always provided, and factory installed in each power bay.
- 2) Order a 4000 A interconnecting bus kit per each set of -48 VDC power buses to be interconnected (between two bays), P/N 558005.

8000 A, P/N 557824

Features

- ◆ Provides an additional bus assembly to be field mounted to the bus factory installed at the inside top of a power bay to increase capacity to 8000 A.
- ◆ Enables a continuous -48 VDC bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) To increase the capacity of the -48 VDC power bus in a power bay to 8000 A, order one (1) P/N 557824.
- 2) Order an 8000 A interconnecting bus kit per each set of -48 VDC power buses to be interconnected (between two bays), P/N 558006.

12000 A, P/N 557823

Features

- ◆ Provides an additional bus assembly to be field mounted to the bus factory installed at the inside top of a power bay to increase capacity to 12000 A.
- ◆ Enables a continuous -48 VDC bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) To increase the capacity of the -48 VDC power bus in a power bay to 12000 A, order one (1) P/N 557823.
- 2) Order a 12000 A interconnecting bus kit per each set of -48 VDC power buses to be interconnected (between two bays), P/N 558007.

Internal Top Mount -48 VDC Power Bus Assemblies, Distribution Bays

4000 A

Features

- ◆ Provides a 4000 A, -48 VDC power bus factory mounted at the inside top of a distribution bay.
- ◆ Enables a continuous -48 VDC bus along the top of all bays.

Ordering Notes

- 1) No action required. This bus assembly is always provided, and factory installed in each distribution bay.
- 2) Order a 4000 A interconnecting bus kit per each set of -48 VDC power buses to be interconnected (between two bays), P/N 558005.

8000 A, P/N 557828

Features

- ◆ Provides an additional bus assembly to be field mounted to the bus factory installed at the inside top of a distribution bay to increase capacity to 8000 A.
- ◆ Enables a continuous -48 VDC bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) To increase the capacity of the -48 VDC power bus in a distribution bay to 8000 A, order one (1) P/N 557828.
- 2) Order an 8000 A interconnecting bus kit per each set of -48 VDC power buses to be interconnected (between two bays), P/N 558006.

12000 A, P/N 557827

Features

- ◆ Provides an additional bus assembly to be field mounted to the bus factory installed at the inside top of a distribution bay to increase capacity to 12000 A.
- ◆ Enables a continuous -48 VDC bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) To increase the capacity of the -48 VDC power bus in a distribution bay to 12000 A, order one (1) P/N 557827.
- 2) Order a 12000 A interconnecting bus kit per each set of -48 VDC power buses to be interconnected (between two bays), P/N 558007.

Internal Top Mount Return Bus Assemblies, Power Bays

4000 A

Features

- ◆ Provides a 4000 A, return bus factory mounted at the inside top of a power bay.
- ◆ Enables a continuous return bus along the top of all bays.

Ordering Notes

- 1) No action required. This bus assembly is always provided, and factory installed in each power bay.
- 2) Order a 4000 A interconnecting bus kit per each set of return buses to be interconnected (between two bays), P/N 558005.

8000 A, P/N 557824

Features

- ◆ Provides an additional bus assembly to be field mounted to the bus factory installed at the inside top of a power bay to increase capacity to 8000 A.
- ◆ Enables a continuous return bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) To increase the capacity of the return bus in a power bay to 8000 A, order one (1) P/N 557824.
- 2) Order an 8000 A interconnecting bus kit per each set of return buses to be interconnected (between two bays), P/N 558006.

12000 A, P/N 557823

Features

- ◆ Provides an additional bus assembly to be field mounted to the bus factory installed at the inside top of a power bay to increase capacity to 12000 A.
- ◆ Enables a continuous return bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) To increase the capacity of the return bus in a power bay to 12000 A, order one (1) P/N 557823.
- 2) Order a 12000 A interconnecting bus kit per each set of return buses to be interconnected (between two bays), P/N 558007.

Optional Internal Top Mount Return Bus Assemblies, Distribution Bays

4000 A, P/N 557829

Features

- ◆ Provides a 4000 A, return bus to be field mounted at the inside top of a distribution bay.
- ◆ Enables a continuous return bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) For a 4000 A distribution bay return bus, order one (1) P/N 557829.
- 2) Order a 4000 A interconnecting bus kit per each set of return buses to be interconnected (between two bays), P/N 558005.

8000 A, P/N 557830

Features

- ◆ Provides an 8000 A, return bus to be field mounted at the inside top of a distribution bay.
- ◆ Enables a continuous return bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) For an 8000 A distribution bay return bus, order one (1) P/N 557830.
- 2) Order an 8000 A interconnecting bus kit per each set of return buses to be interconnected (between two bays), P/N 558006.

12000 A, P/N 557831

Features

- ◆ Provides a 12000 A, return bus to be field mounted at the inside top of a distribution bay.
- ◆ Enables a continuous return bus along the top of all bays.

Restrictions

Field installed.

Ordering Notes

- 1) For a 12000 A distribution bay return bus, order one (1) P/N 557831.
- 2) Order a 12000 A interconnecting bus kit per each set of return buses to be interconnected (between two bays), P/N 558007.

Bay-to-Bay Interconnect Busbars

4000 A, P/N 558005

Features

- ◆ Ties a 4000 A internal top mount -48 VDC power bus or return bus to the same type of bus on an adjoining bay.

Restrictions

Field installed.

Ordering Notes

- 1) Order a 4000 A interconnecting bus kit per each set of -48 VDC power buses or return buses to be interconnected (between two bays), P/N 558005.

8000 A, P/N 558006

Features

- ◆ Ties an 8000 A internal top mount -48 VDC power bus or return bus to the same type of bus on an adjoining bay.

Restrictions

Field installed.

Ordering Notes

- 1) Order an 8000 A interconnecting bus kit per each set of -48 VDC power buses or return buses to be interconnected (between two bays), P/N 558006.

12000 A, P/N 558007

Features

- ◆ Ties a 12000 A internal top mount -48 VDC power bus or return bus to the same type of bus on an adjoining bay.

Restrictions

Field installed.

Ordering Notes

- 1) Order a 12000 A interconnecting bus kit per each set of -48 VDC power buses or return buses to be interconnected (between two bays), P/N 558007.

Optional SM-DU+ Shunt Monitoring Assembly, P/N 557136

Features

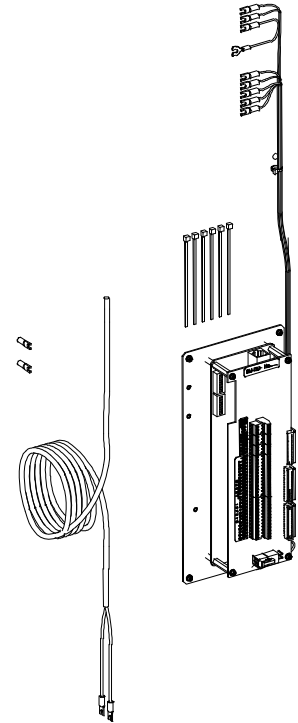
- ◆ Provides an additional twenty-five (25) shunt monitoring inputs and fourteen (14) FA monitoring inputs.
- ◆ Can be mounted in a distribution bay or external to the power system.

Restrictions

The system may only contain up to a total of eight (8) SM-DU+ modules, including the SM-DU+ modules factory installed in each distribution bay.

Ordering Notes

- 1) Order an optional SM-DU+ Shunt Monitoring Assembly, P/N 557136, as required (see restrictions above).



Optional SM-DU+ Remote Mounting Kit, P/N 562974

Features

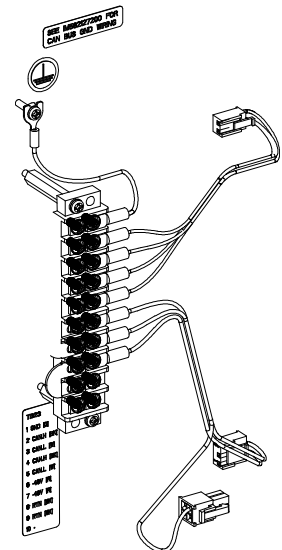
- ◆ Provides a 10-position terminal block and wire harness (for board power and CAN bus connection) for mounting optional SM-DU+ Shunt Monitoring Assembly, P/N 557136, external to the power system.

Restrictions

Requires field assembly to SM-DU+ Shunt Monitoring Assembly, P/N 557136.

Ordering Notes

- 1) Order an optional SM-DU+ remote mounting kit, P/N 562974, as required.



Distribution Devices

TPL Type Fuses

Restrictions

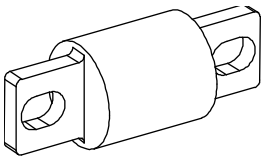
For use in [List A](#).

Load should not exceed 80% of device rating
(except for an 800 A fuse which should not exceed 75% of device rating).

Ordering Notes

- 1) Order fuses as required per [Table 1](#).
- 2) See [Table 22](#) for recommended load distribution wire sizes and lugs.

Ampere Rating	Part Number
70	248251500
80	248252000
100	248252600
150	248253300
200	248254000
225	248254500
250	248255000
300	248255700
400	248257000
500	248258000
600	248259000
800	102901
See Table 22 for recommended load distribution wire sizes and lugs.	



TPL Fuse

Table 1
TPL Fuses

Vertiv™ NetSure™ 7200 DC Power System

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TPH Type Fuses

Restrictions

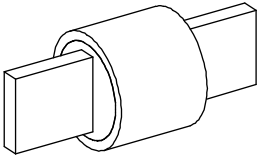
For use in [List B](#).

Load should not exceed 80% of device rating.

Ordering Notes

- 1) Order fuses as required per [Table 2](#).
- 2) See [Table 22](#) for recommended load distribution wire sizes and lugs.

Ampere Rating	Part Number
70	119437
80	119438
100	119440
150	119581
200	119582
225	119583
250	119584
300	119585
400	119586
500	119587
600	119588



TPH Fuse

See [Table 22](#) for recommended load distribution wire sizes and lugs.

Table 2
TPH Fuses

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Bullet Nose Type Circuit Breakers and Bullet Nose Type Fuseholders e/w TPS/TLS Fuses

Features

- ◆ Each circuit breaker (as listed in [Table 3](#) and [Table 4](#)) plugs into one, two, or three mounting position(s) on a distribution panel containing bullet nose type distribution positions.
- ◆ A single fuseholder provides for installation of a 3 A to 100 A Bussmann TPS type or Littelfuse TLS type fuse (as listed in [Table 5](#)). This fuseholder plugs into a single mounting position on a distribution panel containing bullet nose type distribution positions. This fuseholder provides a GMT-A alarm type fuse, which operates open to provide an alarm indication if the associated distribution fuse opens.

Restrictions

For use in [List C](#).

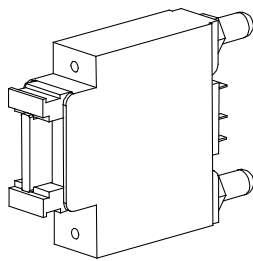
Load should not exceed 80% of device rating.

Install distribution devices from left to right, starting with the highest capacity and working to the lowest capacity.

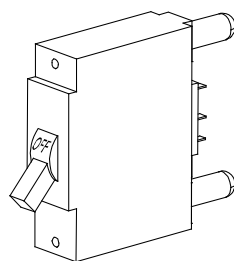
Caution: *A circuit breaker with a rating greater than 100 A SHALL HAVE an empty mounting position between it and any other overcurrent protective device.*

Ordering Notes

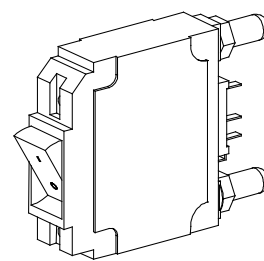
- 1) Order circuit breakers as required per [Table 3](#) or [Table 4](#).
- 2) Order fuses as required per [Table 5](#). For each fuse ordered, also order one (1) P/N 117201 bullet nose type fuseholder.
- 3) See [Table 21](#) for recommended load distribution wire sizes and lugs.
- 4) When ordering 125 A to 250 A circuit breakers (2-pole and 3-pole devices); associated crimp lugs may be ordered from [Table 8](#). See [Table 10](#) for other lug options.



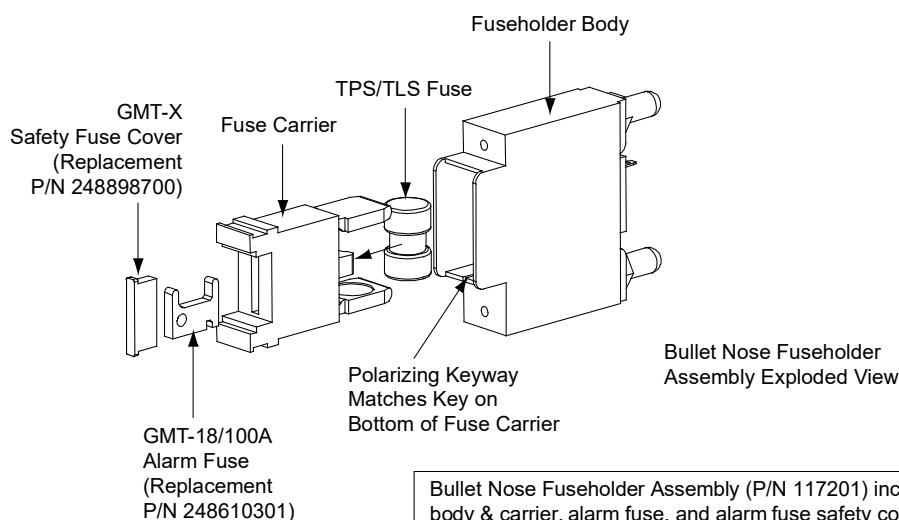
Bullet Nose Fuseholder



Toggle Handle
Bullet Nose Circuit Breaker



Rocker Handle
Bullet Nose Circuit Breaker



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Ampere Rating	Number of Poles	Number of Mounting Positions Required	Part Number	
			Electrical Trip ¹ (White Handle)	Electrical/ Mechanical Trip ² (Black Handle)
1	1	1	102272	101596
3	1	1	102273	101597
5	1	1	102274	101598
10	1	1	102275	101599
15	1	1	102276	101600
20	1	1	102277	101601
25	1	1	102278	101602
30	1	1	102279	101603
35	1	1	102280	101604
40	1	1	102281	101605
45	1	1	121998	121997
50	1	1	102282	101606
60	1	1	102283	101607
70	1	1	102284	101608
75	1	1	102285	101609
80	1	1	121996	121995
100	1	1	102286	101610
125	2	2 ^{Note 3}	516991	516838
150	2	2 ^{Note 3}	516993	516839
175	2	2 ^{Note 3}	144883	144884
200	2	2 ^{Note 3}	121831	121832
225	3	3 ^{Note 3}	144885	144886
250	3	3 ^{Note 3}	121835	121836

See [Table 21](#) for recommended load distribution wire sizes and lugs.

When ordering 125 A to 250 A circuit breakers (2-pole and 3-pole devices); associated crimp lugs may be ordered from [Table 8](#). See [Table 10](#) for other lug options.

Notes

Circuit Breaker Alarm Operation:

- ¹ Provides an alarm during an electrical trip condition only.
- ² Provides an alarm during an electrical or manual trip condition.
- ³ Also requires an empty mounting position between it and any other overcurrent protective device.

Table 3
Toggle Handle Bullet Nose Type Circuit Breakers

Vertiv™ NetSure™ 7200 DC Power System
System Application Guide

Ampere Rating	Number of Poles	Number of Mounting Positions Required	Part Number	
			Electrical Trip ¹ (White Handle)	Electrical/ Mechanical Trip ² (Black Handle)
1	1	1	142856	142878
3	1	1	142857	142879
5	1	1	142858	142880
10	1	1	142859	142881
15	1	1	142861	142882
20	1	1	142862	142883
25	1	1	142863	142884
30	1	1	142864	142885
35	1	1	142865	142886
40	1	1	142866	142887
45	1	1	142867	142888
50	1	1	142868	142889
60	1	1	142869	142890
70	1	1	142870	142891
75	1	1	142871	142892
80	1	1	142872	142901
100	1	1 ^{Note 3}	142873	142902
125	2	2 ^{Note 3}	142874	142903
150	2	2 ^{Note 3}	142875	142904
200	2	2 ^{Note 3}	142876	142905
250	3	3 ^{Note 3}	142877	142906

See [Table 21](#) for recommended load distribution wire sizes and lugs.

When ordering 125 A to 250 A circuit breakers (2-pole and 3-pole devices); associated crimp lugs may be ordered from [Table 8](#). See [Table 10](#) for other lug options.

Notes

Circuit Breaker Alarm Operation:

- ¹ Provides an alarm during an electrical trip condition only.
- ² Provides an alarm during an electrical or manual trip condition.
- ³ Also requires an empty mounting position between it and any other overcurrent protective device.

Table 4
Rocker Handle Bullet Nose Circuit Breakers

Vertiv™ NetSure™ 7200 DC Power System
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Ampere Rating	Part Number	Bussmann P/N	Littelfuse P/N
3	248230900	TPS-3	TLS003
5	248231000	TPS-5	TLS005
6	248231200	TPS-6	TLS006
10	248231500	TPS-10	TLS010
15	248231800	TPS-15	TLS015
20	248232100	TPS-20	TLS020
25	248232400	TPS-25	TLS025
30	248232700	TPS-30	TLS030
40	248233300	TPS-40	TLS040
50	248233900	TPS-50	TLS050
60	248234200	TPS-60	TLS060
70	248234500	TPS-70	TLS070
80	118413	--	TLS080
90	118414	--	TLS090
100	118415	--	TLS100
Bullet Nose Type Fuseholder		P/N 117201 (Includes Fuseholder, 18/100 A GMT-A Alarm Fuse, and GMT-X Safety Fuse Cover)	
See Table 21 for recommended load distribution wire sizes and lugs.			

Table 5
Bullet Nose Type Fuseholders and TPS/TLS Fuses

Vertiv™ NetSure™ 7200 DC Power System

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Optional Bullet Nose Type 6-Position GMT Distribution Fuse Block, P/N 549017

Features

- ◆ Provides six (6) load distribution fuse positions (1/4 A to 15 A GMT alarm-type fuses).
- ◆ Screw clamp type load and load return terminals provided.
- ◆ Includes six (6) dummy fuses equipped with safety fuse covers.

Restrictions

For use in [List C](#).

Occupies two (2) bullet device mounting positions.

Can only be installed in the 1-2, 3-4, 17-18, 19-20, 21-22, and 23-24 positions of the distribution panel.

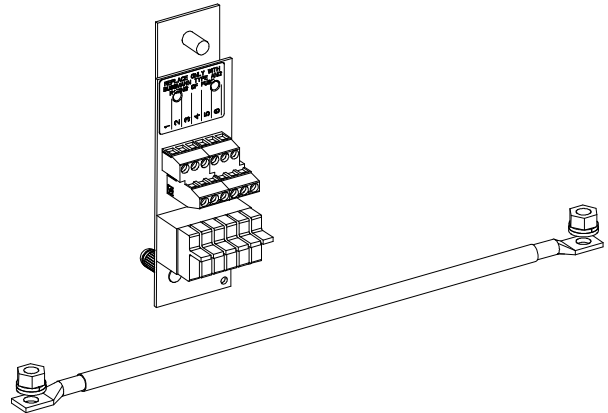
Terminal block wire size capacity: 24 AWG to 14 AWG.

35 A maximum capacity per block.

Maximum GMT fuse size is 15 A.

Ordering Notes

- 1) Order optional Bullet Nose Type 6-Position GMT Fuse Block (P/N 549017) as required.
- 2) Order fuses as required per [Table 6](#).



GMT Type Load Distribution Fuses

Features

- ◆ An optional “Bullet Nose Type 6-Position GMT Distribution Fuse Block, P/N 549017” is available in a [List C](#) for additional load distribution.

Restrictions

When used for power distribution, load should not exceed 80% of device rating, except 10 and 15 amp fuses, for which load should not exceed 70% of device rating.

Ordering Notes

- 1) Order fuses as required per [Table 6](#).

Ampere Rating	Part Number	Fuse Color
18/100 (GMT-A)	248610301	---
1/4	248610200	VIOLET
1/2	248610300	RED
3/4	248610500	BROWN
1-1/3	248610700	WHITE
2	248610800	ORANGE
3	248610900	BLUE
5	248611000	GREEN
7-1/2	248611300	BLACK-WHITE
10	248611200	RED-WHITE
15	248611500	RED-BLUE
Replacement Safety Fuse Cover (GMT-Y)	102774	---
Replacement Dummy Fuse	248872600	---

Table 6
GMT Fuses

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

GJ/218 Type Circuit Breakers

Restrictions

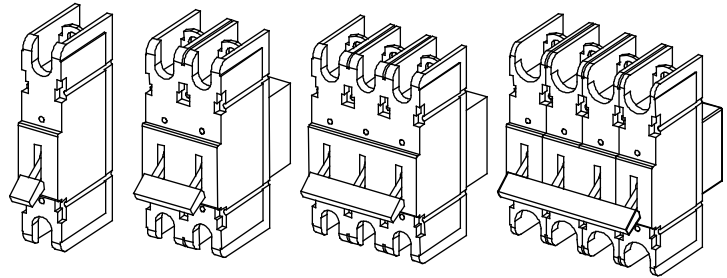
For use in [List D](#) and [List E](#).

Load should not exceed 80% of device rating.

Refer to [Table 7](#) for required distribution row mounting positions.

Ordering Notes

- 1) Order circuit breakers and associated mounting kits as required per [Table 7](#).
- 2) See [Table 22](#) for recommended load distribution wire sizes and lugs.



GJ/218 Circuit Breakers

Ampere Rating	No. of Poles	P/N Electrical/ Mechanical Trip ¹ with Internal Shunt (25mV @ full rated load) ³	P/N Electrical Trip ² with Internal Shunt (25mV @ full rated load) ³	Breaker Mounting Kit (with Shunt)
100	1	123580	516184	List D: 557189 List E: 557194
125	1	123631	516187	
150	1	123632	516185	
175	1	123633	516186	
200	1	123634	516188	
225	1	123635	516189	
250	1	123636	516190	
300	2	550250	550253	List D: 557190 List E: 557195
400	2	550251	550254	
600	3	550252	550255	List D: 557191 List E: 557196
800	4	--	550249	List D: 557192 List E: 557197

See [Table 22](#) for recommended load distribution wire sizes and lugs.

^{1,2} Circuit Breaker Alarm Operation:

¹ Provides an alarm during an electrical or manual trip condition.

² Provides an alarm during an electrical trip condition only.

³ Extended shunt leads are 22 AWG stranded wire, approximately 12 ft. long. Each shunt lead is equipped with a 49.9 ohm current limiting resistor. Shunt leads are factory wired to SM-DU+.

Table 7
GJ/218 Circuit Breakers (With Internal Shunt)

Standard Crimp Lugs and Busbar Adapter Kits

Standard Crimp Lug Tables

Lead Size	Part Number
14-10 AWG	245342300
8 AWG	245390200
6 AWG	245346700
4 AWG	245346800
2 AWG	245346900



Table 8
 Crimp Lug
 Two-Hole, 1/4" Bolt Clearance Hole, 5/8" Centers

Lead Size	Part Number
6 AWG	245349900
4 AWG	245350000
2 AWG	245348200
1/0 AWG	245347100
2/0 AWG	245347200
3/0 AWG	245347300
4/0 AWG	245347400
250 kcmil	245347500
300 kcmil	245347600
350 kcmil	245347700
400 kcmil	245347800
500 kcmil	245347900
600 kcmil	245348000
750 kcmil	245348100

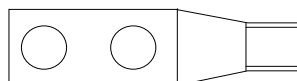


Table 9
 Crimp Lug
 Two-Hole, 3/8" Bolt Clearance Hole, 1" Centers

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Busbar Adapter Kits for Use with List C

Features

- ◆ See [Table 10](#) for part numbers and descriptions of available kits.
- ◆ Kits include hardware shown.
- ◆ Unless otherwise specified, busbar adapter kits are factory-installed when ordered with system.

Restrictions

For use in List C.

Straight return busbar in kits 545405 and 545571 may not be installed on List C return busbar. Instead, connect return cables to return busbar at top of cabinet.

Part Number	Description
545404	Busbar Adapter Kit – Converts two (2) load positions (1/4-20 on 5/8" centers) to one (1) landing (3/8-16 on 1" centers). Right angle load busbar and straight return busbar for rear wiring egress.
545405	Busbar Adapter Kit – Converts one (1) load position (1/4-20 on 5/8" centers) to one (1) load landing (1/4-20 on 5/8" centers), right angle.
545571	Busbar Adapter Kit – Converts three (3) load positions (1/4-20 on 5/8" centers) to one (1) landing (3/8-16 on 1" centers). Right angle load busbar and straight return busbar for rear wiring egress.

Table 10
Busbar Adapter and Hardware Kits

Optional Temperature Probes

Features

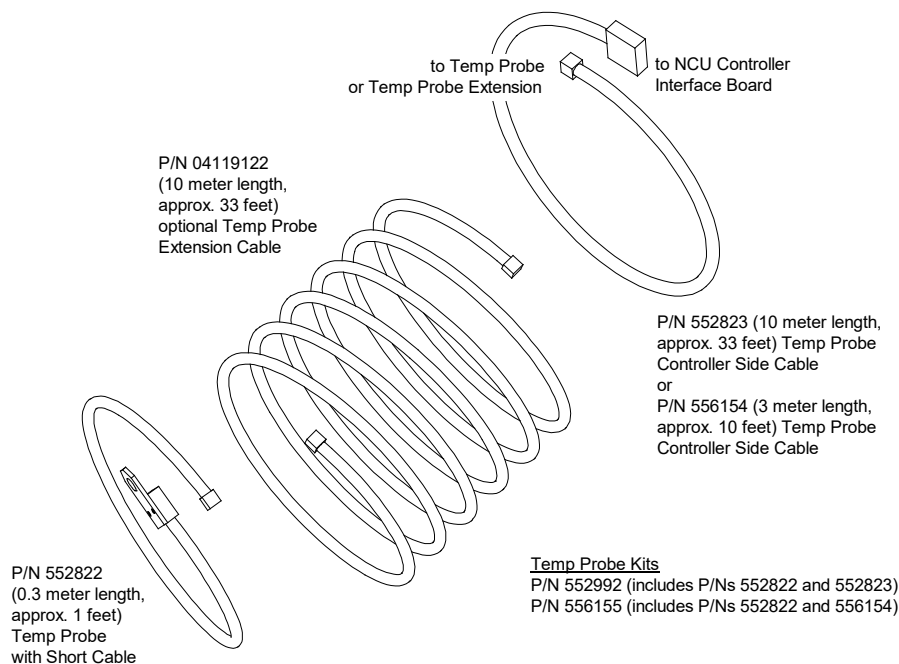
- ◆ Up to two (2) temperature probes can be connected to the IB2 (NCU Interface Board). Up to two (2) additional temperature probes can be connected to the EIB (NCU Extended Interface Board). Any combination of the four (4) temperature probes can be programmed to monitor ambient temperature and/or battery temperature. A temperature probe set to monitor battery temperature can also be used for the rectifier battery charge temperature compensation feature, or the battery charge temperature compensation feature can be programmed to use the average or highest value of all battery temperature probes. The battery charge temperature compensation feature allows the controller to automatically increase or decrease the output voltage of the system to maintain battery float current as battery temperature decreases or increases, respectively. Battery life can be extended when an optimum charge voltage to the battery with respect to temperature is maintained. A temperature probe set to monitor battery temperature can also be used for the BTRM (Battery Thermal Runaway Management) feature. The BTRM feature lowers output voltage when a high temperature condition exists to control against battery thermal runaway.
- ◆ The temperature sensor end of the probe contains a tab with a 5/16" clearance hole for mounting.
- ◆ Temperature probes can also be used with the optional [SM-Temp Temperature Concentrator](#).

Restrictions

A temperature probe programmed to monitor battery temperature should be mounted on the negative post of a battery cell to sense battery temperature. A temperature probe used for battery charge temperature compensation or BTRM (Battery Thermal Runaway Management) should also be mounted on the negative post of a battery cell. A temperature probe programmed to monitor ambient temperature should be mounted in a convenient location, away from direct sources of heat or cold.

Ordering Notes

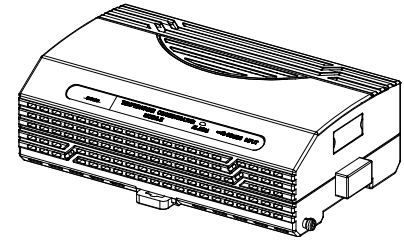
- 1) Order temperature probes as required. Note that each temperature probe consists of two or three pieces which plug together to make a complete probe (see the following illustration). For a complete temperature probe, order one (1) P/N 552992 (10.3 meters) or one (1) P/N 556155 (3.3 meters). If additional length is required, order temperature probe extension cable P/N 04119122 (10 meters).
- 2) If more probes are desired, order one or more SM-Temp Temperature Concentrator, P/N 547490. See [SM-Temp Temperature Concentrator](#).



Optional SM-Temp Temperature Concentrator, P/N 547490

Features

- ◆ Allows for multiple temperature probes to be used for ambient temperature monitoring, battery temperature monitoring, temperature compensation, and/or BTRM (Battery Thermal Runaway Management).
- ◆ Provides (8) temperature probe inputs per SM-Temp.
- ◆ Can cascade up to (8) SM-Temp modules, connecting up to sixty-four (64) temperature probes.
- ◆ The SM-Temp Concentrator is connected at the end of the NCU CAN bus. Via the CAN Bus, the NCU reads each temperature probe from each SM-Temp Concentrator.



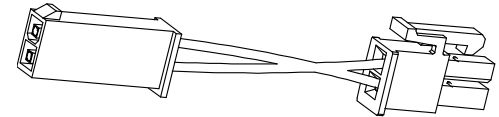
Ordering Notes

- 1) Order SM-Temp Temperature Concentrator, P/N 547490, as required.
- 2) Order up to (8) temperature probes for each concentrator. See [“Optional Temperature Probe”](#) above.

Return Bus Load Shunt Monitoring Cable Assembly Kit, P/N 559404

Features

- ◆ This kit provides a wire harness (P/N 559353) to reverse the shunt reference voltage to the SM-DU Shunt Monitoring Module located in the primary power bay. The SM-DU module mounted in the primary power bay contains connections for the internal load shunts provided in each power bay (the system can consist of up to three power bays). The SM-DU module also provides an additional external shunt monitoring input. When used as shipped, any external shunt needs to be installed in the hot (-48V) bus. Use this kit to connect up to four (4) external shunts located in the return bus. This requires all internal shunts connected to the SM-DU module to be disconnected and the associated shunt leads isolated.



Restrictions

With kit P/N 559404 installed, all shunts connected to the SM-DU module must be located in the return bus. All internal shunts connected to the SM-DU module MUST be disconnected and the associated shunt leads isolated.

Ordering Notes

- 1) To connect external load shunts located in the return bus to the SM-DU module in the primary power bay, order kit P/N 559404.

User Replaceable Alarm, Reference, and Control Fuses

Ordering Notes

- 1) Order replacement fuses as required per [Table 11](#).

Assembly	Desig.	Function	Size (Amperes)	Type	Part No.
List A	FA	Fuse Alarm	0.25	Bussmann GMT	248610200
	--	--	--	Safety Fuse Cover (GMT-X)	248898700
List B	FA	Fuse Alarm	0.25	Bussmann GMT	248610200
	--	--	--	Safety Fuse Cover (GMT-X)	248898700
List C TPS/TLS Fuseholders (P/N 117201)	FA	Fuse Alarm	18/100	Bussmann GMT-A	248610301
	--	--	--	Safety Fuse Cover (GMT-X)	248898700
Primary Power Bay	F1	Touch Screen PC	3	Bussmann GMT	248610900
	--	--	--	Safety Fuse Cover (GMT-X)	248898700

Table 11
Replaceable Alarm, Reference, and Control Fuses

User Replaceable Components

Ordering Notes

- 1) Refer to [Table 12](#). Refer to the separate rectifier descriptions in this section for their part numbers.

Item	Part Number
NCU Controller (Primary Power Bay)	1M830DNA
Secondary Control Module (Secondary Power Bay)	1M830BNA
NCU IB2 Interface Board	555286 (Assembly), MA4C5U31 (Board Only)
NCU EIB Extended Interface Board	548120 (Assembly), MA455U41 (Board Only)
NCU IB4 Interface Board	559741 (Assembly), 558076 (Board Only)
SM-DU	SMDU
SM-DU Shunt and Fuse Alarm Connector Board	556866
SM-DU+	SMDU2
SM-DU+ Shunt Connector Board	556915

Table 12
User Replaceable Components

Bay-to-Bay Cables

Ordering Notes

- 1) Bay-to-Bay cables are factory provided, as required. For replacements, refer to [Table 13](#).

Item	Part Number
CAN Bus Cable	557012
Primary Power Bay to Secondary Power Bay RS-485 Cable	557012
Primary or Secondary Power Bay to Distribution Bay SM-DU+ Power Cable	557012
Secondary Power Bay to Primary Power Bay Shunt Cable	557011

Table 13
Bay-to-Bay Cables

**RECOMMENDED WIRING SIZES, BRANCH CIRCUIT PROTECTION,
 CRIMP LUGS, AND WIRING ILLUSTRATIONS**

Bay Frame Grounding Requirements

For bay frame grounding requirements, refer to the current edition of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC), applicable local codes, and your specific site requirements.

A customer's grounding network lead can be attached to the top of each bay as shown in [Figure 10](#). Provision is made for installing a lead with a two-hole lug that has 1/4" bolt clearance holes on 5/8" centers. Refer to [Table 8](#) for lug selection.

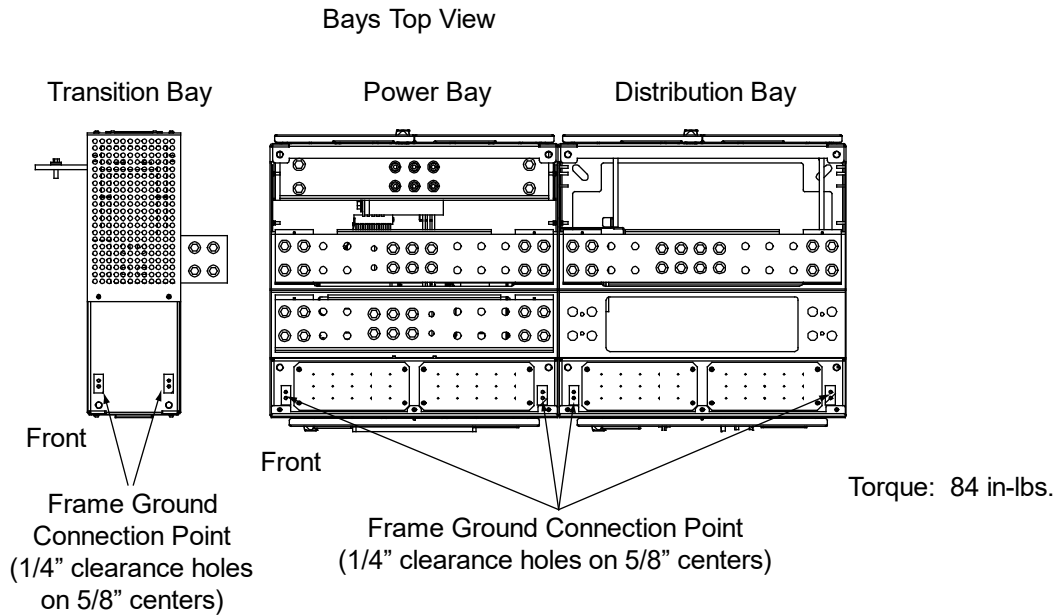


Figure 10

AC Input Connections, Power Bays

Recommended AC Input Branch Circuit Protection and Wire Size for List 1, 2 Power Bays, Nominal 208 VAC / 240 VAC, 3-Phase, 20 Feeds per Bay

Refer to [Table 14](#) for recommended wire sizes and branch circuit protection. Refer also to [Figure 11](#).

AC INPUT TO LIST 1, 2 POWER BAYS (Nominal 208 VAC / 240 VAC, Three Phase, 50 Hz / 60 Hz) Each Bay Requires Twenty (20) AC Feeds				
Input Voltage	Input Current ⁽⁵⁾	Overcurrent Protection ⁽¹⁾	40°C Ambient Temperature	
			Wire ^{(3) (4) (6)}	Conduit Size
208 VAC	31.6 A	40 A ⁽²⁾	8 AWG	3/4"
240 VAC	27.2 A	35 A ⁽²⁾	8 AWG	3/4"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Maximum over current protection device is 50 A.
- ³ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁴ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁵ Input current based on R48-3500e rectifier module.
- ⁶ THHN 90°C Wire.

Table 14

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

AC Input Connections to List 1, 2 Power Bays Illustration, Nominal 208 VAC / 240 VAC, 3-Phase, 20 Feeds per Bay

AC Input Connections, 582127200 List 1, 2
Nominal 208 VAC / 240 VAC, 3-Phase,
20 Feeds per Bay
(1 Feed per 3 Rectifiers)

AC Input
Wire Size Capacity: 16-1/0 AWG.
Torque: 30 (±2) in-lbs.

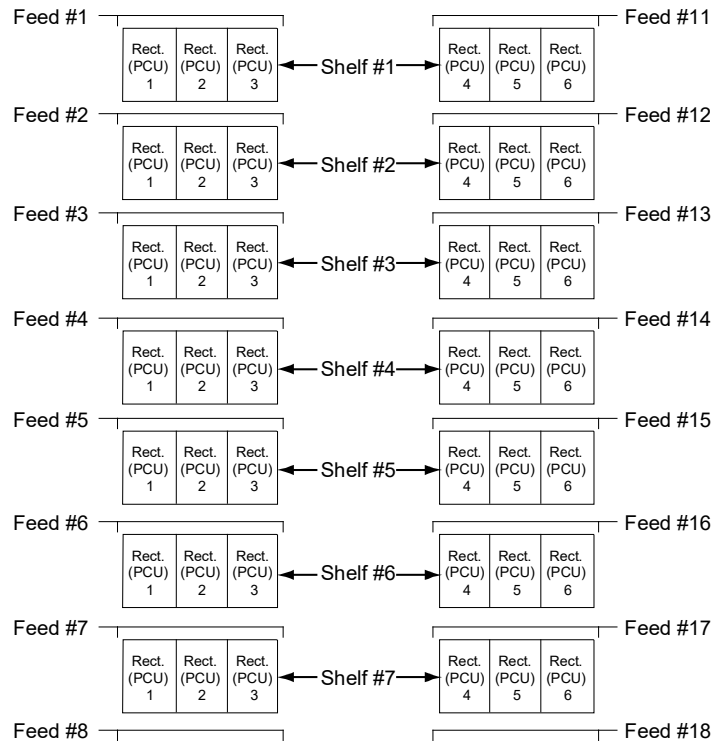
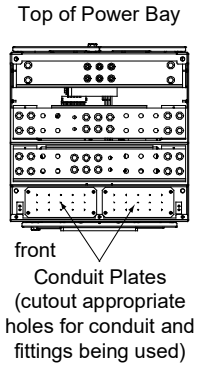
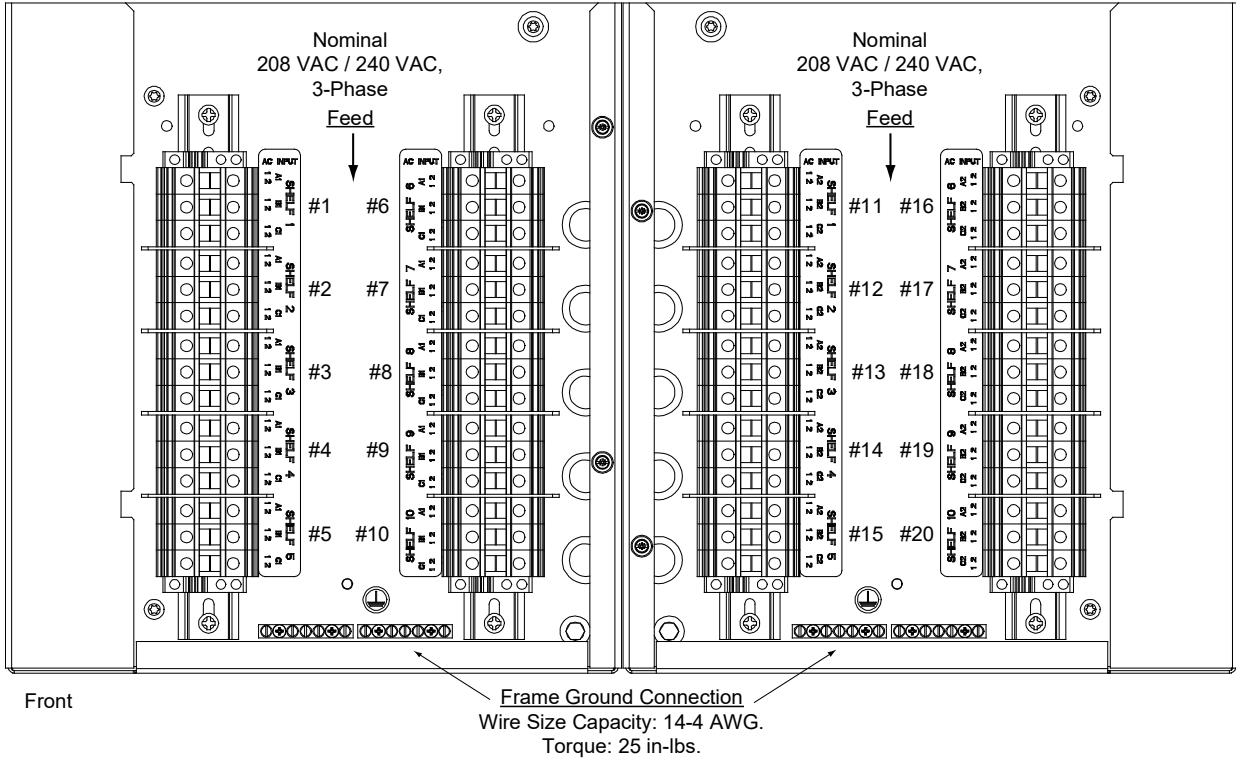


Figure 11

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Recommended AC Input Branch Circuit Protection and Wire Size for List 3, 4 Power Bays, Nominal 208 VAC / 240 VAC, 3-Phase, 4 Feeds per Bay

Refer to [Table 15](#) for recommended wire sizes and branch circuit protection. Refer also to [Figure 12](#).

AC INPUT TO LIST 3, 4 POWER BAYS (Nominal 208 VAC / 240 VAC, Three Phase, 50 Hz / 60 Hz) Each Bay Requires Four (4) AC Feeds				
Input Voltage	Input Current (⁴)	Overcurrent Protection (¹)	40°C Ambient Temperature	
			Wire (² (³) (⁵))	Conduit Size
208 VAC	153 A	200 A	3/0 AWG	2"
240 VAC	132 A	175 A	2/0 AWG	2"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ³ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁴ Input current based on R48-3500e rectifier module.
- ⁵ THHN 90°C Wire.

Table 15

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

AC Input Connections to List 3, 4 Power Bays Illustration, Nominal 208 VAC / 240 VAC, 3-Phase, 4 Feeds per Bay

AC Input Connections, 582127200 List 3, 4
 Nominal 208 VAC / 240 VAC, 3-Phase,
 4 Feeds per Bay
 (1 Feed per 15 Rectifiers)

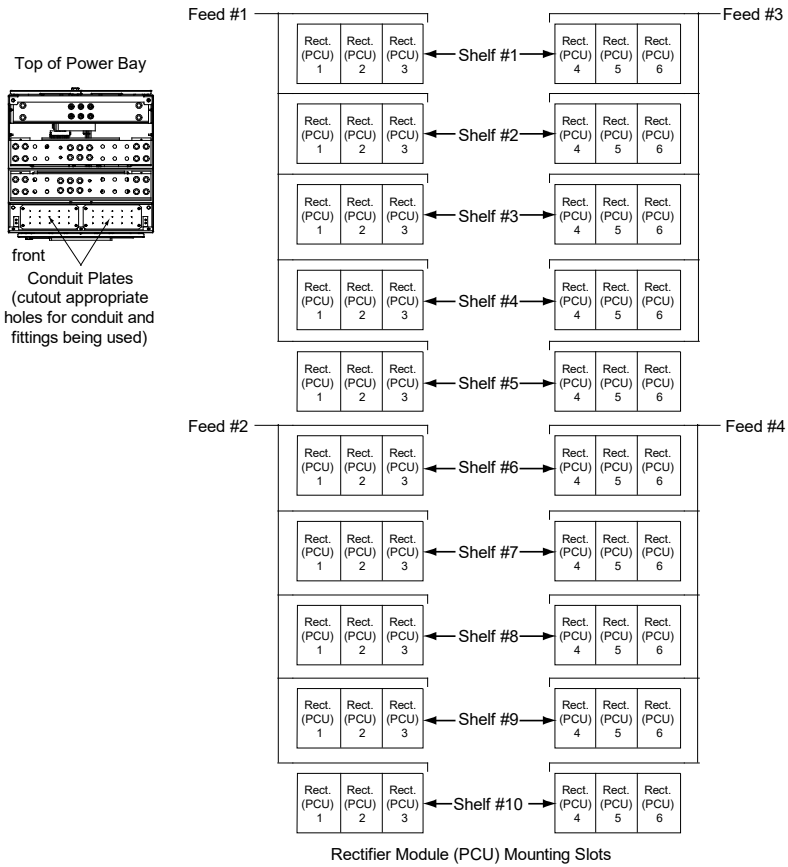
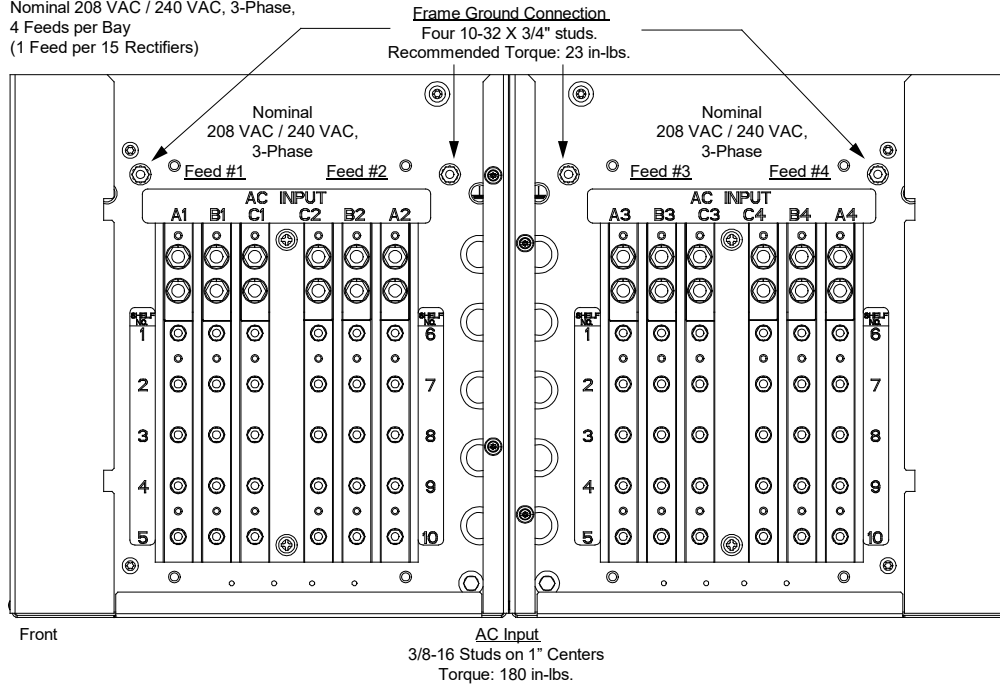


Figure 12

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Recommended AC Input Branch Circuit Protection and Wire Size for List 5, 6 Power Bays, Nominal 208 VAC / 240 VAC, 3-Phase, 10 Feeds per Bay

Refer to [Table 16](#) for recommended wire sizes and branch circuit protection. Refer also to [Figure 13](#).

AC INPUT TO LIST 5, 6 POWER BAYS (Nominal 208 VAC / 240 VAC, Three Phase, 50 Hz / 60 Hz) Each Bay Requires Ten (10) AC Feeds				
Input Voltage	Input Current ⁽⁵⁾	Overcurrent Protection ⁽¹⁾	40°C Ambient Temperature	
			Wire ^{(3) (4) (6)}	Conduit Size
208 VAC	63 A	80 A ⁽²⁾	4 AWG	1"
240 VAC	54.4 A	70 A ⁽²⁾	4 AWG	1"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Maximum over current protection device is 90 A.
- ³ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁴ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁵ Input current based on R48-3500e rectifier module.
- ⁶ THHN 90°C Wire.

Table 16

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

AC Input Connections to List 5, 6 Power Bays Illustration, Nominal 208 VAC / 240 VAC, 3-Phase, 10 Feeds per Bay

AC Input Connections, 582127200 List 5, 6
Nominal 208 VAC / 240 VAC, 3-Phase,
10 Feeds per Bay
(1 Feed per 6 Rectifiers)

AC Input
Wire Size Capacity: 16-1/0 AWG.
Torque: 30 (±2) in-lbs.

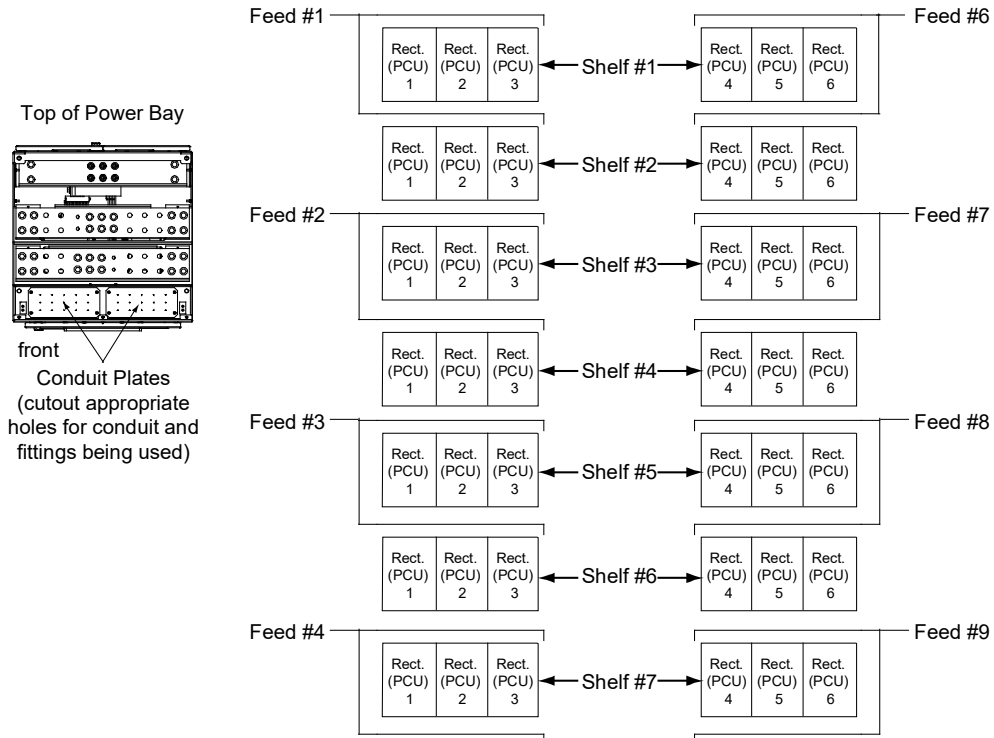
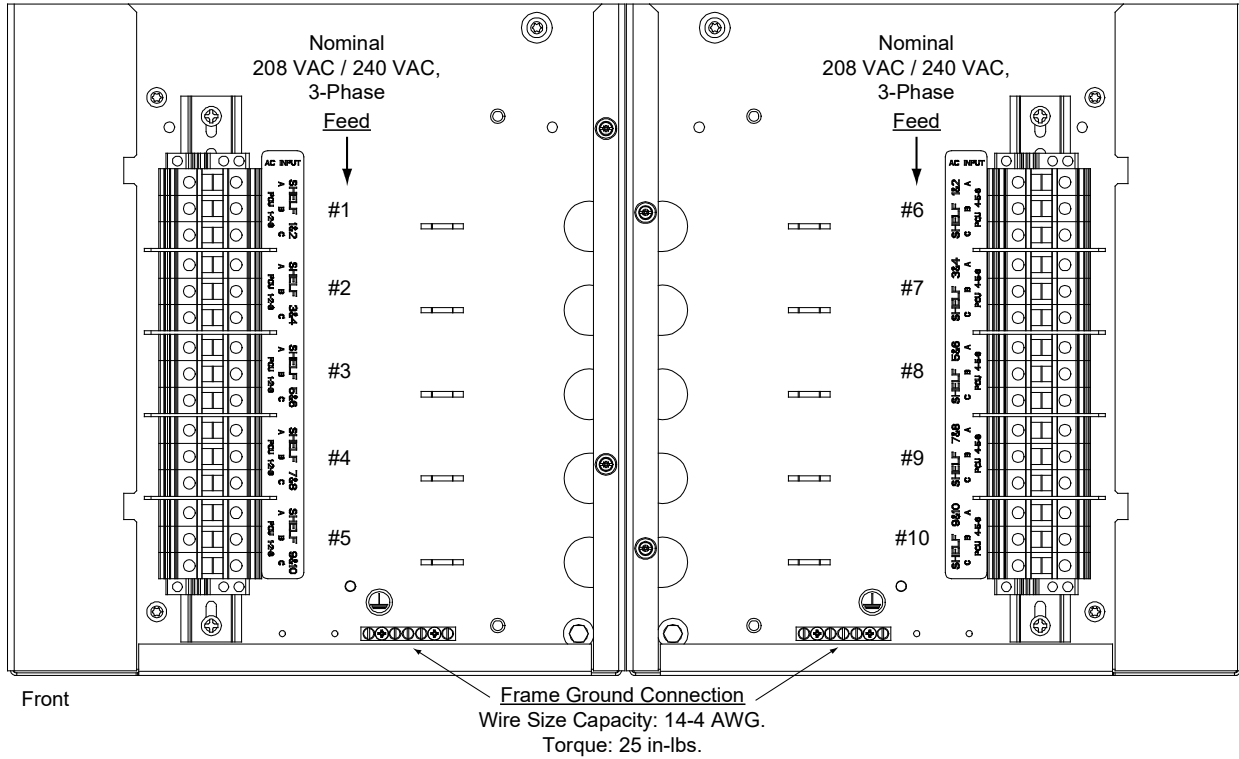


Figure 13

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Recommended AC Input Branch Circuit Protection and Wire Size for List 7, 8 Power Bays, Nominal 208 VAC / 240 VAC, 1-Phase, 20 Feeds per Bay

Refer to [Table 17](#) for recommended wire sizes and branch circuit protection. Refer also to [Figure 14](#).

AC INPUT TO LIST 7, 8 POWER BAYS (Nominal 208 VAC / 240 VAC, Single Phase, 50 Hz / 60 Hz) Each Bay Requires Twenty (20) AC Feeds				
Input Voltage	Input Current (⁶)	Overcurrent Protection (¹)	40°C Ambient Temperature	
			Wire (⁴) (⁵) (⁷)	Conduit Size
208 VAC	53.4 A	70 A (²)	4 AWG	1"
240 VAC	46 A	60 A (³)	4 AWG	1"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Maximum over current protection device is 90 A.
- ³ Maximum over current protection device is 70 A.
- ⁴ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁵ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁶ Input current based on R48-3500e rectifier module.
- ⁷ THHN 90°C Wire.

Table 17

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

AC Input Connections to List 7, 8 Power Bays Illustration, Nominal 208 VAC / 240 VAC, 1-Phase, 20 Feeds per Bay

AC Input Connections, 582127200 List 7, 8
Nominal 208 VAC / 240 VAC, 1-Phase,
20 Feeds per Bay
(1 Feed per 3 Rectifiers)

AC Input
Wire Size Capacity: 16-1/0 AWG.
Torque: 30 (±2) in-lbs.

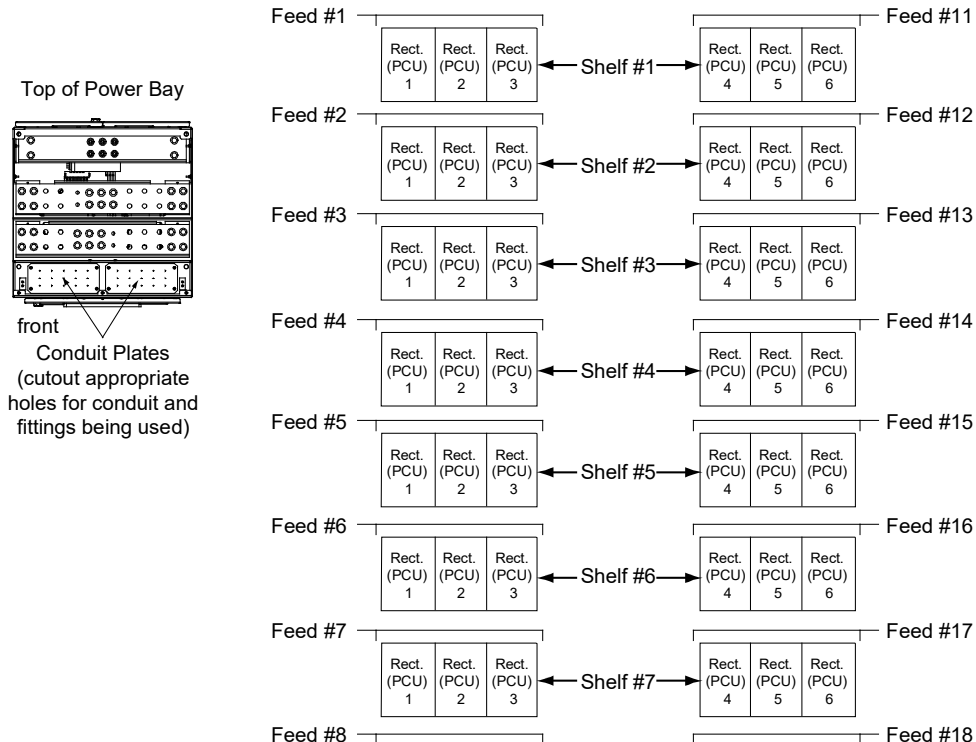
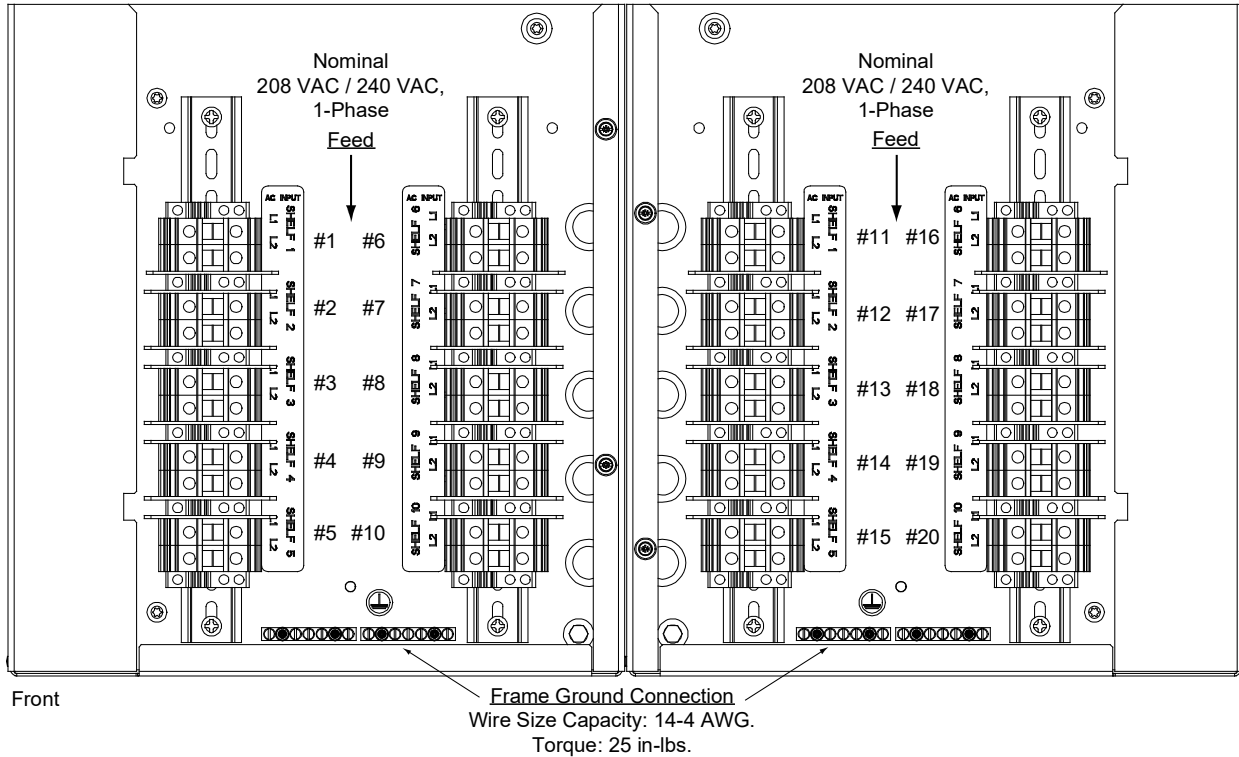


Figure 14

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Recommended AC Input Branch Circuit Protection and Wire Size for List 11, 12 Power Bays, Nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), 20 Feeds per Bay

Refer to Table 18 for recommended wire sizes and branch circuit protection. Refer also to Figure 15.

AC INPUT TO LIST 11, 12 POWER BAYS (Nominal 277 VAC / 480 VAC, Three Phase (3L+N+PE), 50 Hz / 60 Hz) Each Bay Requires Twenty (20) AC Feeds				
Input Voltage	Input Current (⁵)	Overcurrent Protection (¹)	40°C Ambient Temperature	
			Wire (³) (⁴) (⁶)	Conduit Size
277 VAC	13.5 A	20 A (²)	12 AWG	1/2"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Maximum over current protection device is 20 A.
- ³ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁴ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁵ Input current based on R48-3500e rectifier module.
- ⁶ THHN 90°C Wire.

Table 18

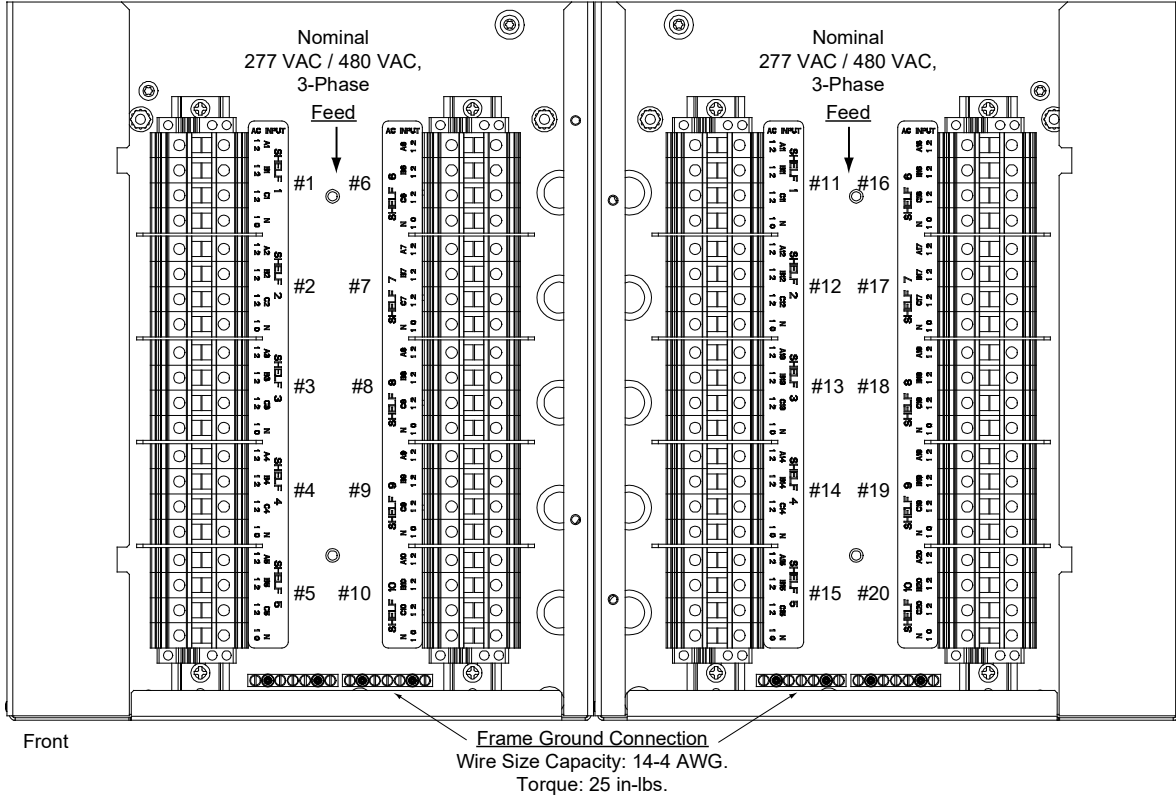
Vertiv™ NetSure™ 7200 DC Power System

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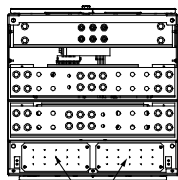
AC Input Connections to List 11, 12 Power Bays Illustration, Nominal 277 VAC / 480 VAC, 3-Phase, 20 Feeds per Bay

AC Input Connections, 582127200 List 11, 12
Nominal 277 VAC / 480 VAC, 3-Phase,
20 Feeds per Bay
(1 Feed per 3 Rectifiers)

AC Input
Wire Size Capacity: 16-1/0 AWG.
Torque: 30 (±2) in-lbs.



Top of Power Bay



front
Conduit Plates
(cutout appropriate
holes for conduit and
fittings being used)

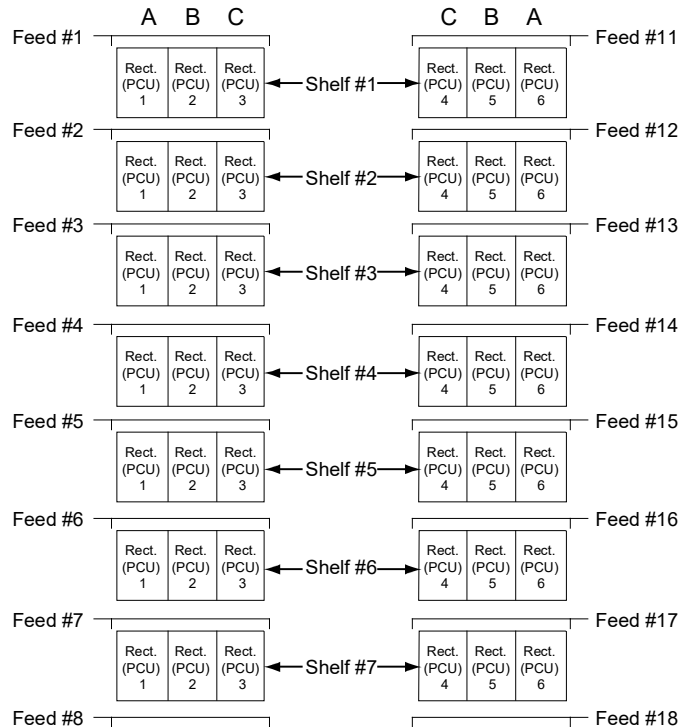


Figure 15

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Recommended AC Input Branch Circuit Protection and Wire Size for List 13, 14 Power Bays, Nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), 4 Feeds per Bay

Refer to Table 19 for recommended wire sizes and branch circuit protection. Refer also to Figure 16.

AC INPUT TO LIST 13, 14 POWER BAYS (Nominal 277 VAC / 480 VAC, Three Phase (3L+N+PE), 50 Hz / 60 Hz) Each Bay Requires Four (4) AC Feeds				
Input Voltage	Input Current (⁵)	Overcurrent Protection (¹)	40°C Ambient Temperature	
			Wire (³) (⁴) (⁶)	Conduit Size
277 VAC	67.5 A	90 A (²)	4 AWG	1-1/4"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Maximum over current protection device is 90 A.
- ³ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁴ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁵ Input current based on R48-3500e rectifier module.
- ⁶ THHN 90°C Wire.

Table 19

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

AC Input Connections to List 13, 14 Power Bays Illustration, Nominal 277 VAC / 480 VAC, 3-Phase (3L+N+PE), 4 Feeds per Bay

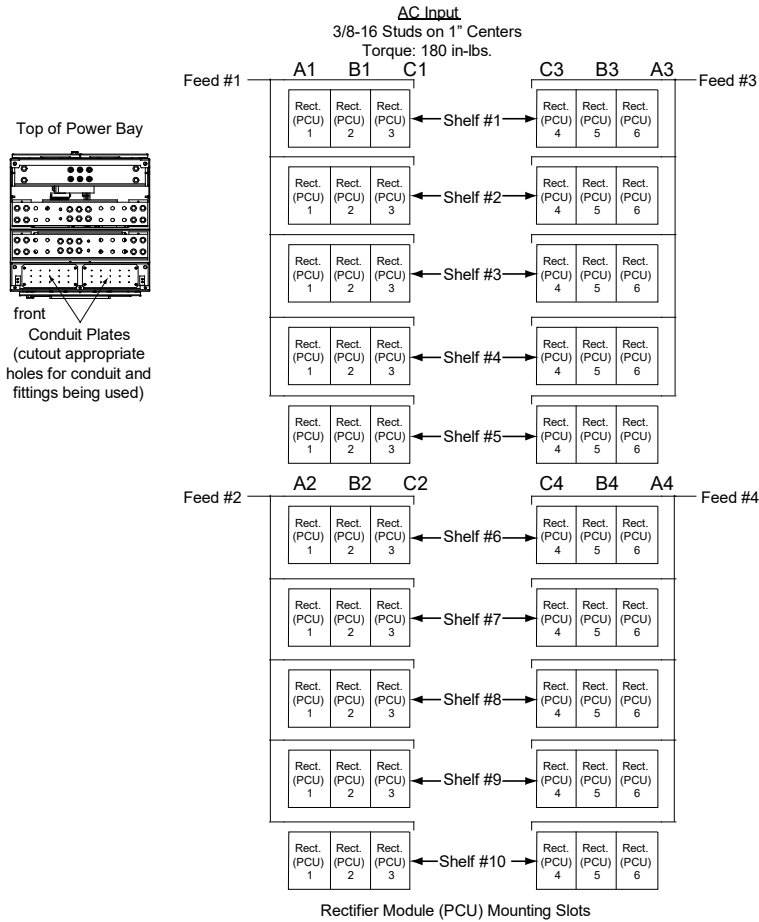
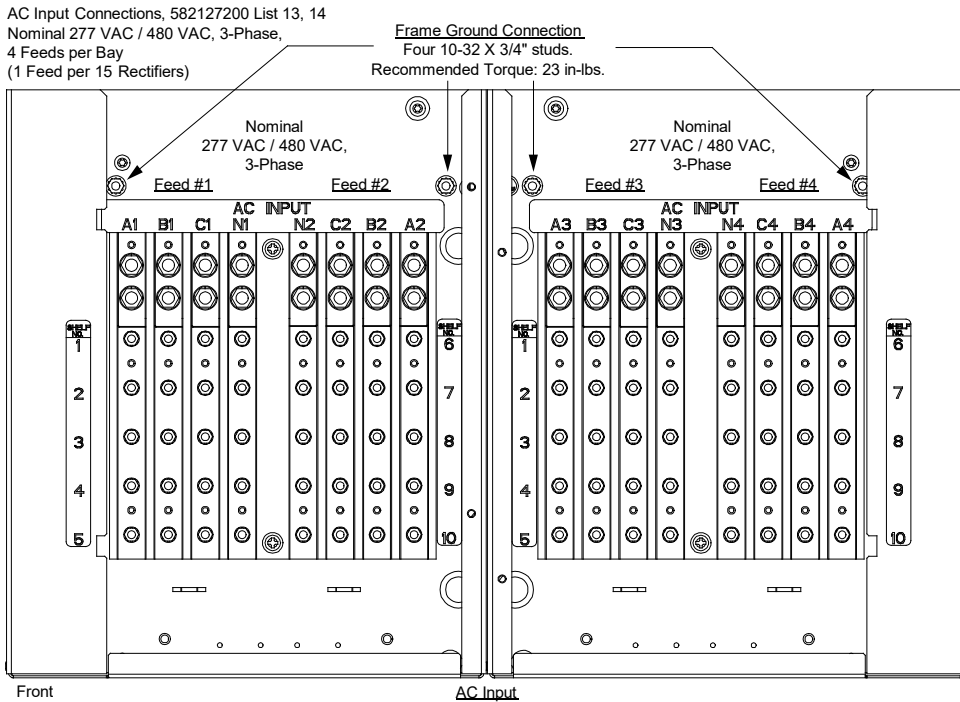


Figure 16

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Recommended AC Input Branch Circuit Protection and Wire Size for List 15, 16 Power Bays, Nominal 277 VAC / 480 VAC (3L+N+PE), 3-Phase, 10 Feeds per Bay

Refer to Table 20 for recommended wire sizes and branch circuit protection. Refer also to Figure 17.

AC INPUT TO LIST 15, 16 POWER BAYS (Nominal 277 VAC / 480 VAC, Three Phase (3L+N+PE), 50 Hz / 60 Hz) Each Bay Requires Ten (10) AC Feeds				
Input Voltage	Input Current (⁵)	Overcurrent Protection (¹)	40°C Ambient Temperature	
			Wire (³) (⁴) (⁶)	Conduit Size
277 VAC	27.0 A	35 A (²)	8 AWG	3/4"

- ¹ The AC input branch circuit protective device should be of the time-delay or high inrush type.
- ² Maximum over current protection device is 50 A.
- ³ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁴ Equipment grounding conductors must be provided with the AC input conductors supplied to the shelf. Frame ground terminals must be connected to earth ground, not power system neutral. Equipment grounding conductor size based on recommendations of the NEC Table 250-122 for copper wire. If aluminum or copper clad aluminum grounding conductor is used, refer to Table 250-122 for increased conductor size. For operation in countries where the NEC is not recognized, follow applicable codes.
- ⁵ Input current based on R48-3500e rectifier module.
- ⁶ THHN 90°C Wire.

Table 20

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

AC Input Connections to List 15, 16 Power Bays Illustration, Nominal 277 VAC / 480 VAC (3L+N+PE), 3-Phase, 10 Feeds per Bay

AC Input Connections, 582127200 List 15, 16
Nominal 277 VAC / 480 VAC, 3-Phase,
10 Feeds per Bay
(1 Feed per 6 Rectifiers)

AC Input
Wire Size Capacity: 16-1/0 AWG.
Torque: 30 (±2) in-lbs.

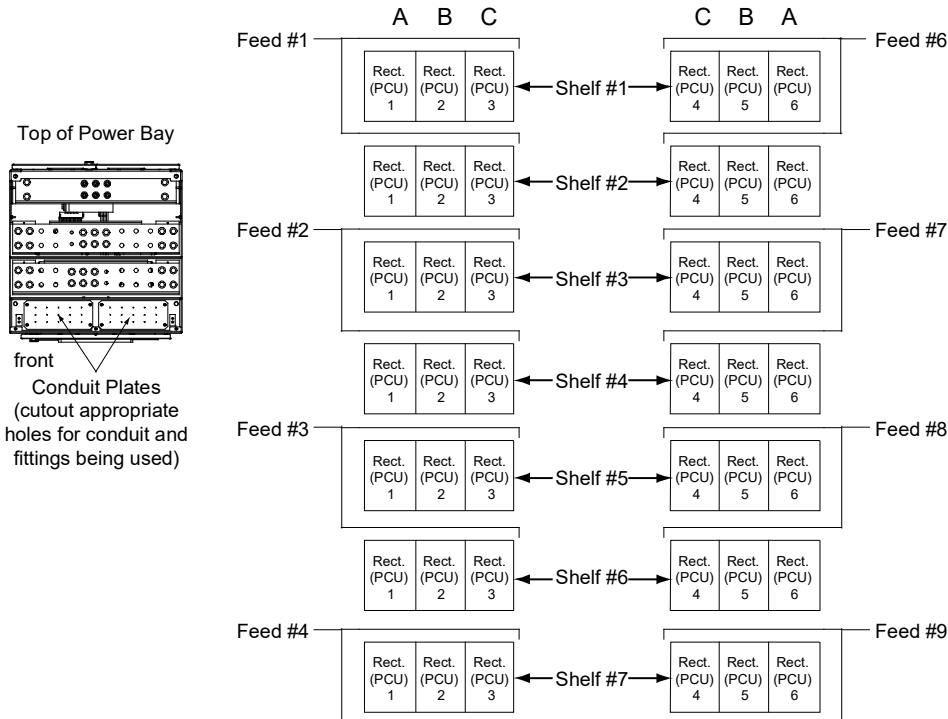
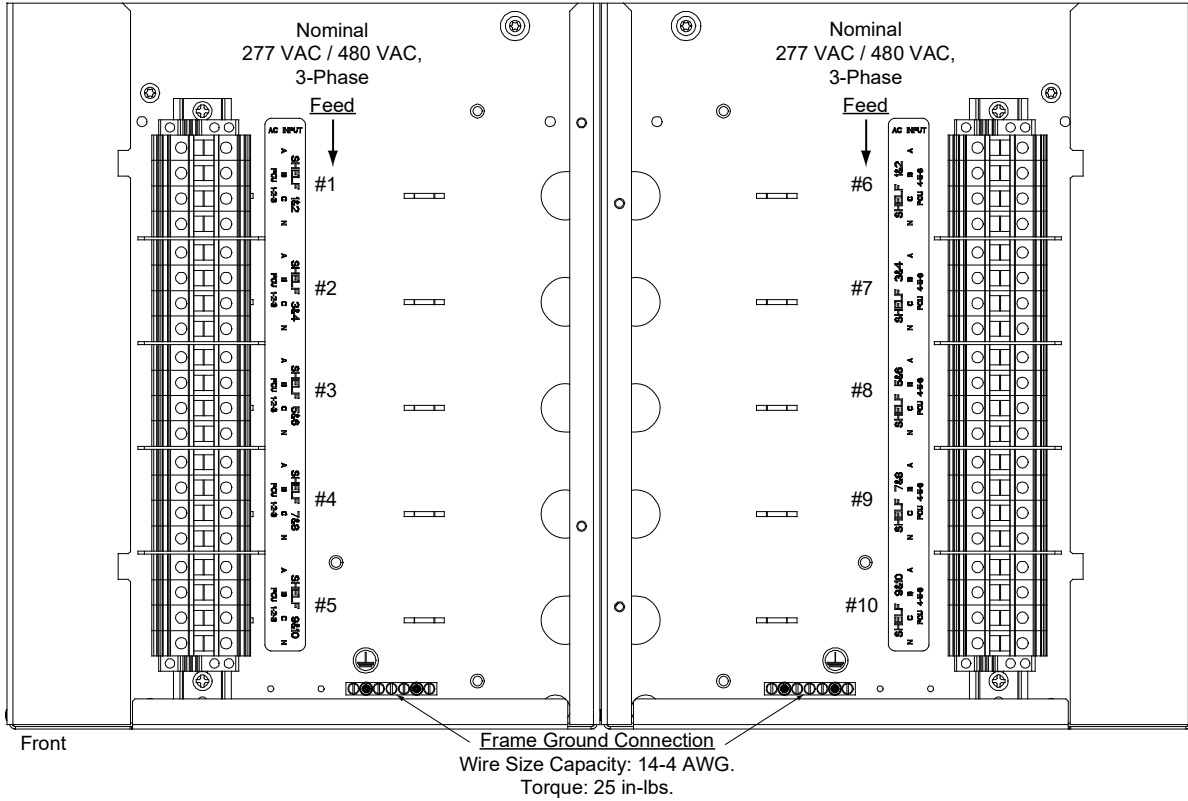


Figure 17

Power and Distribution Bay Connections to Internal Top Mount Busbars

-48 VDC Battery Connections to Power Bays

Recommended -48 VDC Battery Input Wire Sizes and Lugs

Power bay -48 VDC battery leads are connected to the battery busbar and return busbar located in the power bays as shown in [Figure 18](#) and [Figure 19](#) (observe correct polarity). Battery wire size and lug requirements are determined by site requirements. For lug selection, refer to the following.

- The power bay battery busbars and return busbars are designed to accommodate the lugs listed in [Table 9](#).
- Lugs should be crimped per lug manufacturer's specifications.

-48 VDC Output Connections from Power Bays

Recommended -48 VDC Output Wire Sizes and Lugs

Power bay -48 VDC output leads can be connected to the -48 VDC output busbar and return busbar located in the power bays as shown in [Figure 18](#) and [Figure 19](#) (observe correct polarity). Power bay -48 VDC output wire size and lug requirements are determined by site requirements. For lug selection, refer to the following.

- Power bay -48 VDC output busbars and return busbars are designed to accommodate the lugs listed in [Table 8](#) and [Table 9](#).
- Lugs should be crimped per lug manufacturer's specifications.

-48 VDC Input Connections to Distribution Bays

Recommended -48 VDC Input Wire Sizes and Lugs

Distribution bay -48 VDC input leads can be connected to the -48 VDC input busbar and optional return busbar located in the distribution bays as shown in [Figure 18](#) and [Figure 20](#) (observe correct polarity). Distribution bay -48 VDC input wire size and lug requirements are determined by site requirements. For lug selection, refer to the following.

- Distribution bay -48 VDC input busbars are designed to accommodate the lugs listed in [Table 8](#) and [Table 9](#).
- Lugs should be crimped per lug manufacturer's specifications.

Power and Distribution Bay Connections to Internal Top Mount Busbars Illustrations

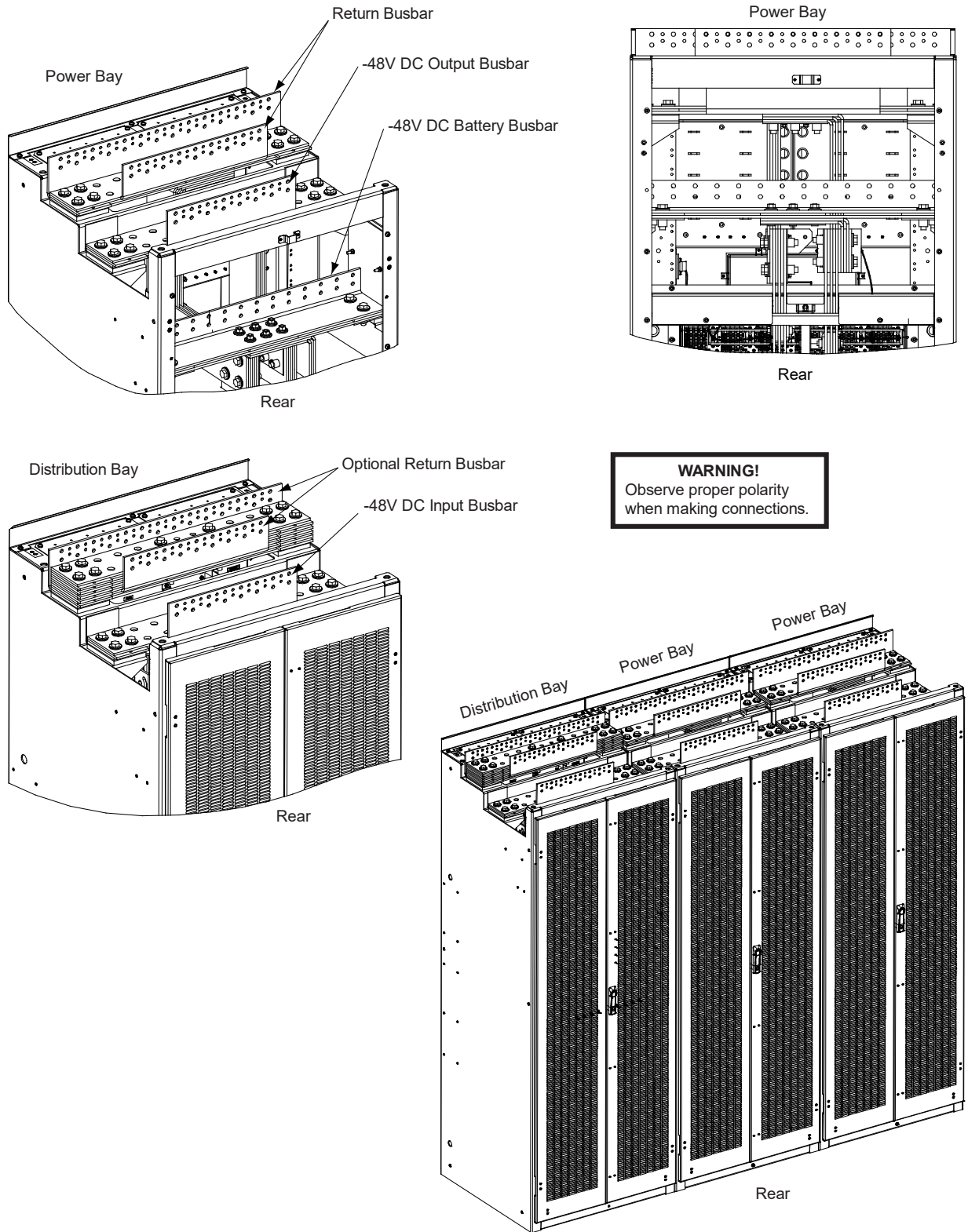
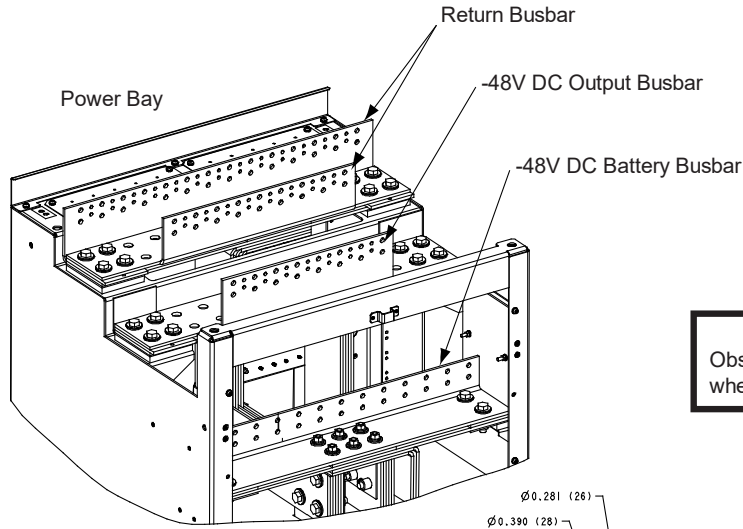


Figure 18
Power and Distribution Bay Overall Busbar Illustration

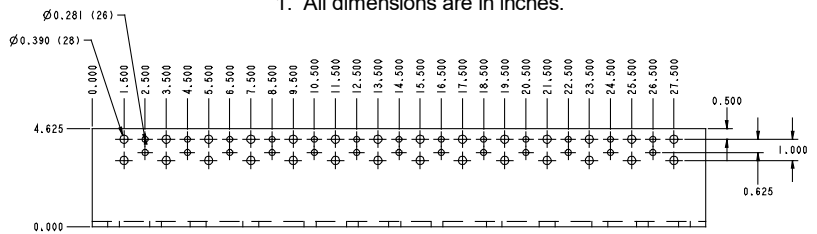
Vertiv™ NetSure™ 7200 DC Power System

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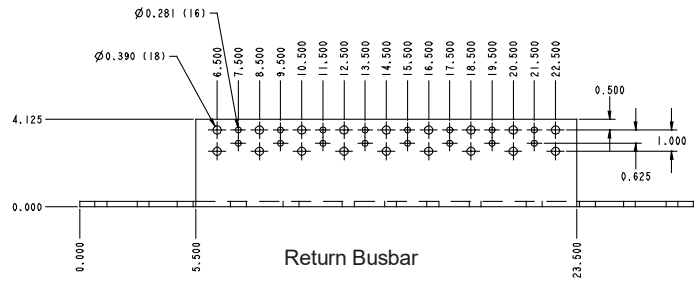


WARNING!
Observe proper polarity
when making connections.

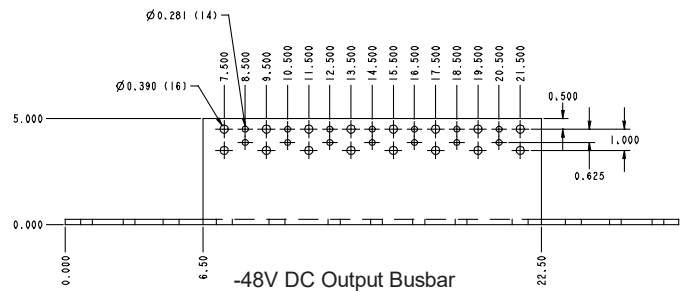
Notes:
1. All dimensions are in inches.



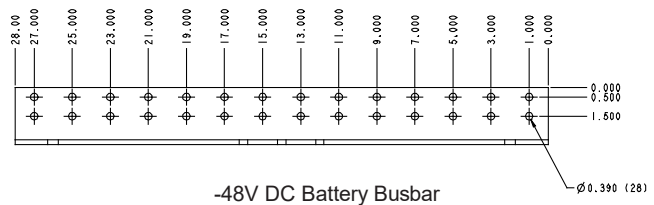
Return Busbar



Return Busbar



-48V DC Output Busbar



-48V DC Battery Busbar

Busbars are provided with 3/8" Holes on 1" Centers and 1/4" Holes on 5/8" Centers. (Customer must supply lug mounting bolts and lug mounting hardware.)

Torque (3/8" Hardware using Standard Lock Washer): 300 in-lbs.

Torque (3/8" Hardware using Belleville Lock Washer): 180 in-lbs.

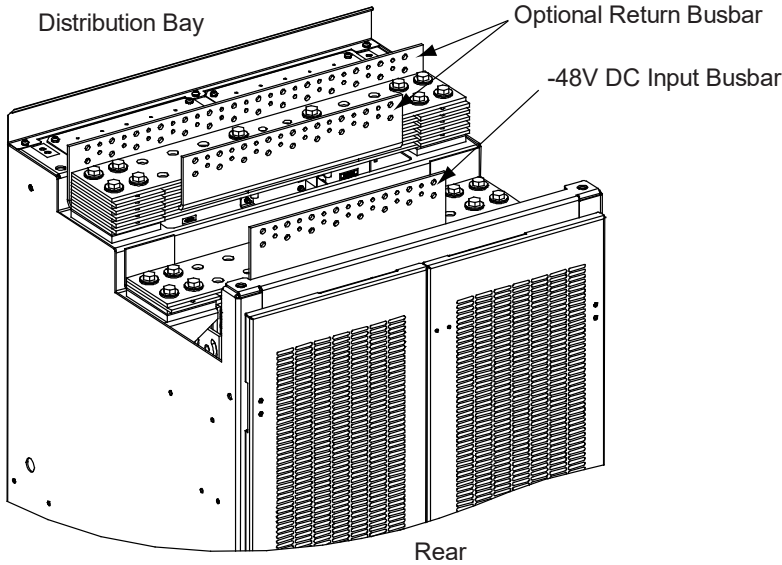
Torque (1/4" Hardware using Standard Lock Washer): 84 in-lbs.

Torque (1/4" Hardware using Belleville Lock Washer): 60 in-lbs.

Figure 19
Power Bay Busbar Illustration

Vertiv™ NetSure™ 7200 DC Power System

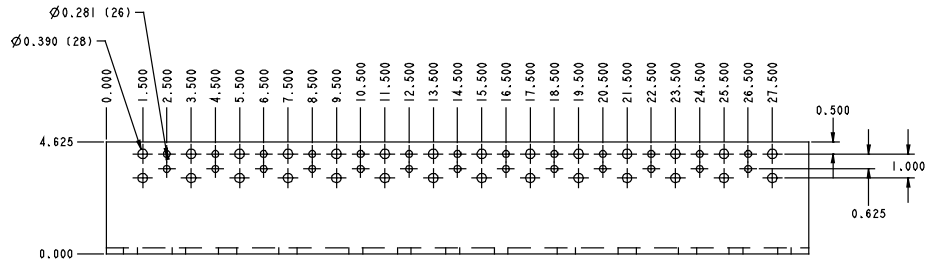
System Application Guide



WARNING!
Observe proper polarity
when making connections.

Notes:

1. All dimensions are in inches.



Optional Return Busbar

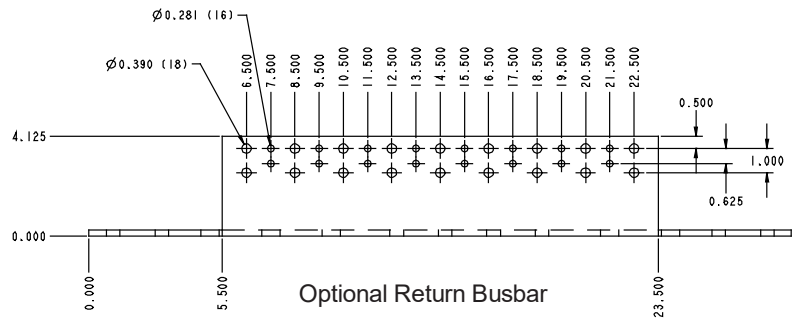
Busbars are provided with 3/8" Holes on 1" Centers and 1/4" Holes on 5/8" Centers. (Customer must supply lug mounting bolts and lug mounting hardware.)

Torque (3/8" Hardware using Standard Lock Washer): 300 in-lbs.

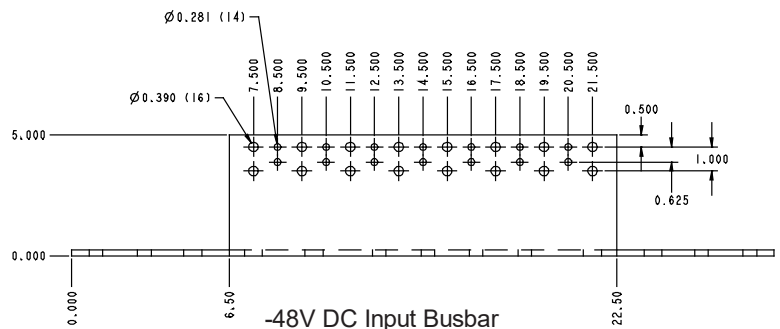
Torque (3/8" Hardware using Belleville Lock Washer): 180 in-lbs.

Torque (1/4" Hardware using Standard Lock Washer): 84 in-lbs.

Torque (1/4" Hardware using Belleville Lock Washer): 60 in-lbs.



Optional Return Busbar



-48V DC Input Busbar

Figure 20
Distribution Bay Busbar Illustration

Load Distribution Connections to Distribution Bays

Recommended Load Distribution Wire Sizes and Lugs

The rating of the distribution device determines the load lead wire size requirement. The distribution panel ordered determines the lug hole size and spacing requirements. For wire size and lug selection, refer to the following.

- **List A Distribution Panel (TPL Fuses) and List B (TPH Fuses):** Load leads are connected to the individual load busbars located on the distribution panel. See [Figure 5](#) and [Figure 6](#). Load return leads are connected to customer provided external return bus or the optional internal top mount return bus (see [Figure 20](#)).

The distribution panel's individual load busbars and optional overhead return busbars (if furnished) are designed to accommodate the lugs listed in [Table 9](#). Use [Table 22](#) to select recommended load distribution wire sizes and lugs for various loop lengths per fuse/circuit breaker ampere rating.

- **List C Distribution Panel (TPS/TLS Fuses and/or Bullet Nose Type Circuit Breakers):** Load leads are connected to the individual load busbars and load return busbar located on the distribution panel. Refer to [Figure 7](#).

The distribution panel's individual load busbars and return busbar are designed to accommodate the lugs listed in [Table 8](#). Use [Table 21](#) to select recommended load distribution wire sizes and lugs for various loop lengths per fuse/circuit breaker ampere rating. Maximum size of wire to be connected to a single fuseholder/circuit breaker position is 2 AWG. See [Table 10](#) for other lug options.

- **List D and List E Distribution Panels (GJ/218 Circuit Breakers):** Load leads are connected to the individual circuit breakers located on the distribution panel. See [Figure 8](#) and [Figure 9](#). Load return leads are connected to customer provided external return bus or the optional internal top mount return bus (see [Figure 20](#)).

The distribution panel's individual circuit breakers are designed to accommodate the lugs listed in [Table 9](#). Use [Table 22](#) to select recommended load distribution wire sizes and lugs for various loop lengths per fuse/circuit breaker ampere rating.

The optional internal top mount return busbar (if furnished) is designed to accommodate the lugs listed in [Table 9](#). Use [Table 22](#) to select recommended load distribution wire sizes and lugs for various loop lengths per fuse/circuit breaker ampere rating.

- Lugs should be crimped per lug manufacturer's specifications.

Load Distribution Connections to Distribution Bays Illustrations

Refer to [Figure 5](#), [Figure 6](#), [Figure 7](#), [Figure 8](#), [Figure 9](#), and [Figure 20](#).

Load Distribution Connections to Optional Bullet Nose 6-Position GMT Fuse Block (P/N 549017) Illustration

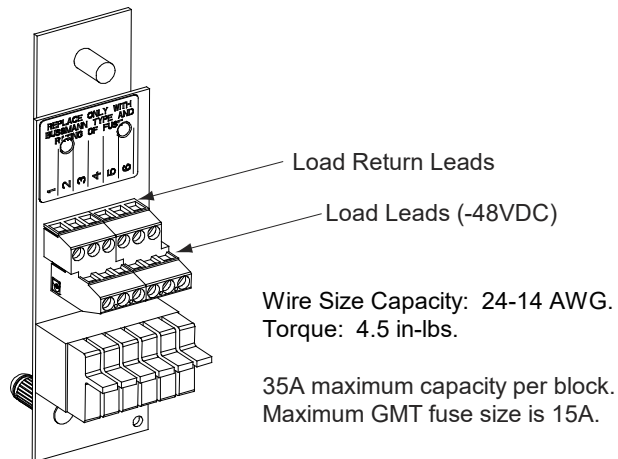


Figure 21

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Wire Size and Lug Selection Tables for Load Connections to TPS/TLS Fuses and Bullet Nose Type Circuit Breakers

Fuse/ Circuit Breaker Amperage	Recm 90°C Wire Size ⁽¹⁾							
	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	2 AWG	1/0 AWG
	Loop Length (feet) ⁽²⁾							
1, 3, 5, 6, 10 A	37 ^(3,4)	58 ^(3,4)	93 ^(3,4)	--	--	--	--	--
15 A	24 ^(3,4)	39 ^(3,4)	62 ^(3,4)	--	--	--	--	--
20 A	--	29 ^(3,4)	46 ^(3,4)	74 ^(3,4)	--	--	--	--
25 A	--	--	37 ^(3,4)	59 ^(3,4)	94 ^(3,4)	--	--	--
30 A	--	--	31 ^(3,4)	49 ^(3,4)	78 ^(3,4)	--	--	--
35 A	--	--	--	42 ^(3,4)	67 ^(3,4)	107 ^(3,4)	--	--
40 A	--	--	--	37 ^(3,4)	59 ^(3,4)	94 ^(3,4)	--	--
45 A	--	--	--	33 ^(3,4)	52 ^(3,4)	83 ^(3,4)	--	--
50 A	--	--	--	29 ^(3,4)	47 ^(3,4)	75 ^(3,4)	--	--
60 A	--	--	--	--	39 ^(3,4)	62 ^(3,4)	99 ^(3,4)	--
70 A	--	--	--	--	33 ⁽³⁾	53 ^(3,4)	85 ^(3,4)	135 ⁽⁴⁾
75 A	--	--	--	--	31 ⁽³⁾	50 ^(3,4)	79 ^(3,4)	126 ⁽⁴⁾
80 A	--	--	--	--	--	47 ^(3,4)	74 ^(3,4)	118 ^(3,4)
Recommended Crimp Lug ⁽⁵⁾								
Lug	245342300	245342300	245342300	245390200	245346700	245346800	245346900	245393500 ⁽⁶⁾

- 1 Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- 2 Recommended wire sizes are sufficient to restrict voltage drop to 1.0 volt or less at listed branch current for the loop lengths shown. Loop length is the sum of the lengths of the positive and negative leads.
- 3 Wire Size / Loop Length Combination Calculated using 30°C Ambient Operating Temperature.
- 4 Wire Size / Loop Length Combination Calculated using 40°C Ambient Operating Temperature.
- 5 Two-hole lug, 1/4" bolt clearance hole, 5/8" centers. Lugs should be crimped per lug manufacturer's specifications.
- 6 Special application crimp lug / strap combination.

Table 21 (cont'd on next page)
Recommended Wire Sizes and Lugs for Load Connections
to Various TPS/TLS Fuses and Bullet Nose Type Circuit Breakers

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Fuse/ Circuit Breaker Amperage	Recm 90°C Wire Size ⁽¹⁾							
	4 AWG	2 AWG	1/0 AWG	2/0 AWG	3/0 AWG	4/0 AWG	250 kcmil	350 kcmil
	Loop Length (feet) ⁽²⁾							
90 A	41 ⁽³⁾	66 ^(3,4)	105 ^(3,4)	133 ⁽⁴⁾	--	--	--	--
100 A	--	59 ^(3,4)	95 ^(3,4)	119 ^(3,4)	--	--	--	--
125 A	--	47 ⁽³⁾	76 ^(3,4)	95 ^(3,4)	120 ⁽⁴⁾	--	--	--
150 A	--	--	63 ^(3,4)	79 ^(3,4)	100 ^(3,4)	--	--	--
200 A	--	--	--	--	75 ^(3,4)	95 ^(3,4)	112 ^(3,4)	--
250 A	--	--	--	--	--	76 ^(3,4)	90 ^(3,4)	126 ^(3,4)
Recommended Crimp Lug								
Lug ⁽⁵⁾	245346800	245346900	245393500 ⁽⁶⁾	245393600 ⁽⁶⁾	245393700 ⁽⁶⁾	245393800 ⁽⁶⁾	514872 ⁽⁶⁾	514873 ⁽⁶⁾

- ¹ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ² Recommended wire sizes are sufficient to restrict voltage drop to 1.0 volt or less at listed branch current for the loop lengths shown. Loop length is the sum of the lengths of the positive and negative leads.
- ³ Wire Size / Loop Length Combination Calculated using 30°C Ambient Operating Temperature.
- ⁴ Wire Size / Loop Length Combination Calculated using 40°C Ambient Operating Temperature.
- ⁵ Two-hole lug, 1/4" bolt clearance hole, 5/8" centers. Lugs should be crimped per lug manufacturer's specifications.
- ⁶ Special application crimp lug / strap combination.

Table 21 (cont'd from previous page)
Recommended Wire Sizes and Lugs for Load Connections
to Various TPS/TLS Fuses and Bullet Nose Type Circuit Breakers

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Wire Size and Lug Selection Tables for Load Connections to TPH Fuses, TPL Fuses, and GJ/218 Type Circuit Breakers

Fuse/ Circuit Breaker Amperage	Recm 90°C Wire Size ⁽¹⁾							
	6 AWG	4 AWG	2 AWG	1/0 AWG	2/0 AWG	3/0 AWG	4/0 AWG	250 kcmil
	Loop Length (feet) ⁽²⁾							
70 A	33 ⁽³⁾	53 ^(3,4)	85 ^(3,4)	135 ⁽⁴⁾	--	--	--	--
80 A	--	47 ^(3,4)	74 ^(3,4)	118 ^(3,4)	--	--	--	--
100 A	--	--	59 ^(3,4)	95 ^(3,4)	119 ^(3,4)	--	--	--
125 A	--	--	47 ⁽³⁾	76 ^(3,4)	95 ^(3,4)	120 ⁽⁴⁾	--	--
150 A	--	--	--	63 ^(3,4)	79 ^(3,4)	100 ^(3,4)	--	--
175 A	--	--	--	--	68 ^(3,4)	86 ^(3,4)	108 ^(3,4)	--
200 A	--	--	--	--	--	75 ^(3,4)	95 ^(3,4)	112 ^(3,4)
Recommended Crimp Lug ⁽⁵⁾								
Lug	245349900	245350000	245348200	245347100	245347200	245347300	245347400	245347500

- ¹ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ² Recommended wire sizes are sufficient to restrict voltage drop to 1.0 volt or less at listed branch current for the loop lengths shown. Loop length is the sum of the lengths of the positive and negative leads.
- ³ Wire Size / Loop Length Combination Calculated using 30°C Ambient Operating Temperature.
- ⁴ Wire Size / Loop Length Combination Calculated using 40°C Ambient Operating Temperature.
- ⁵ Two-hole lug, 3/8" bolt clearance hole, 1" centers. Lugs should be crimped per lug manufacturer's specifications.

Table 22 (cont'd on next page)
Recommended Wire Sizes and Lugs for Load Connections
to Various TPH Fuses, TPL Fuses, and GJ/218-Circuit Breakers

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Fuse/ Circuit Breaker Amperage	Recm 90°C Wire Size ⁽¹⁾							
	2/0 AWG	3/0 AWG	4/0 AWG	250 kcmil	300 kcmil	350 kcmil	400 kcmil	500 kcmil
	Loop Length (feet) ⁽²⁾							
225 A	--	67 ⁽³⁾	84 ^(3,4)	100 ^(3,4)	120 ⁽⁴⁾	--	--	--
250 A	--	--	76 ⁽³⁾	90 ^(3,4)	108 ^(3,4)	126 ⁽⁴⁾	--	--
300 A	159 ⁽⁴⁾ (2) Wires	--	--	--	90 ⁽³⁾	105 ^(3,4)	120 ^(3,4)	--
400 A	--	75 ^(3,4) (2) Wires	95 ^(3,4) (2) Wires	112 ^(3,4) (2) Wires	--	--	--	--
500 A	--	--	76 ⁽³⁾ (2) Wires	90 ^(3,4) (2) Wires	108 ^(3,4) (2) Wires	126 ⁽⁴⁾ (2) Wires	--	--
600 A	--	--	--	--	90 ⁽³⁾ (2) Wires	105 ^(3,4) (2) Wires 157 ⁽⁴⁾ (3) Wires	120 ^(3,4) (2) Wires	--
800 A	--	--	--	84 ⁽³⁾ (3) Wires	101 ^(3,4) (3) Wires	118 ^(3,4) (3) Wires	135 ^(3,4) (3) Wires	--
Recommended Crimp Lug ⁽⁵⁾								
Lug	245347200 (per cable)	245347300 (per cable)	245347400 (per cable)	245347500 (per cable)	245347600 (per cable)	245347700 (per cable)	245347800 (per cable)	245347900 (per cable)

- ¹ Wire sizes based on recommendations of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC). Table 310.15 (B) (16) for copper wire at 90 °C conductor temperature. For operation in countries where the NEC is not recognized, follow applicable codes.
- ² Recommended wire sizes are sufficient to restrict voltage drop to 1.0 volt or less at listed branch current for the loop lengths shown. Loop length is the sum of the lengths of the positive and negative leads.
- ³ Wire Size / Loop Length Combination Calculated using 30°C Ambient Operating Temperature.
- ⁴ Wire Size / Loop Length Combination Calculated using 40°C Ambient Operating Temperature.
- ⁵ Two-hole lug, 3/8" bolt clearance hole, 1" centers. Lugs should be crimped per lug manufacturer's specifications.

Table 22 (cont'd from previous page)
Recommended Wire Sizes and Lugs for Load Connections
to Various TPH Fuses, TPL Fuses, GJ/218-Circuit Breakers

External Alarm, Reference, Monitoring Connections

Recommended External Alarm, Reference, Monitoring, and Control Wire Sizes

Recommended wire size is 22 AWG for loop lengths up to 200 ft. and 18-20 AWG for loop lengths over 200 ft.

External Alarm, Reference, Monitoring, and Control Connections Overview Illustration

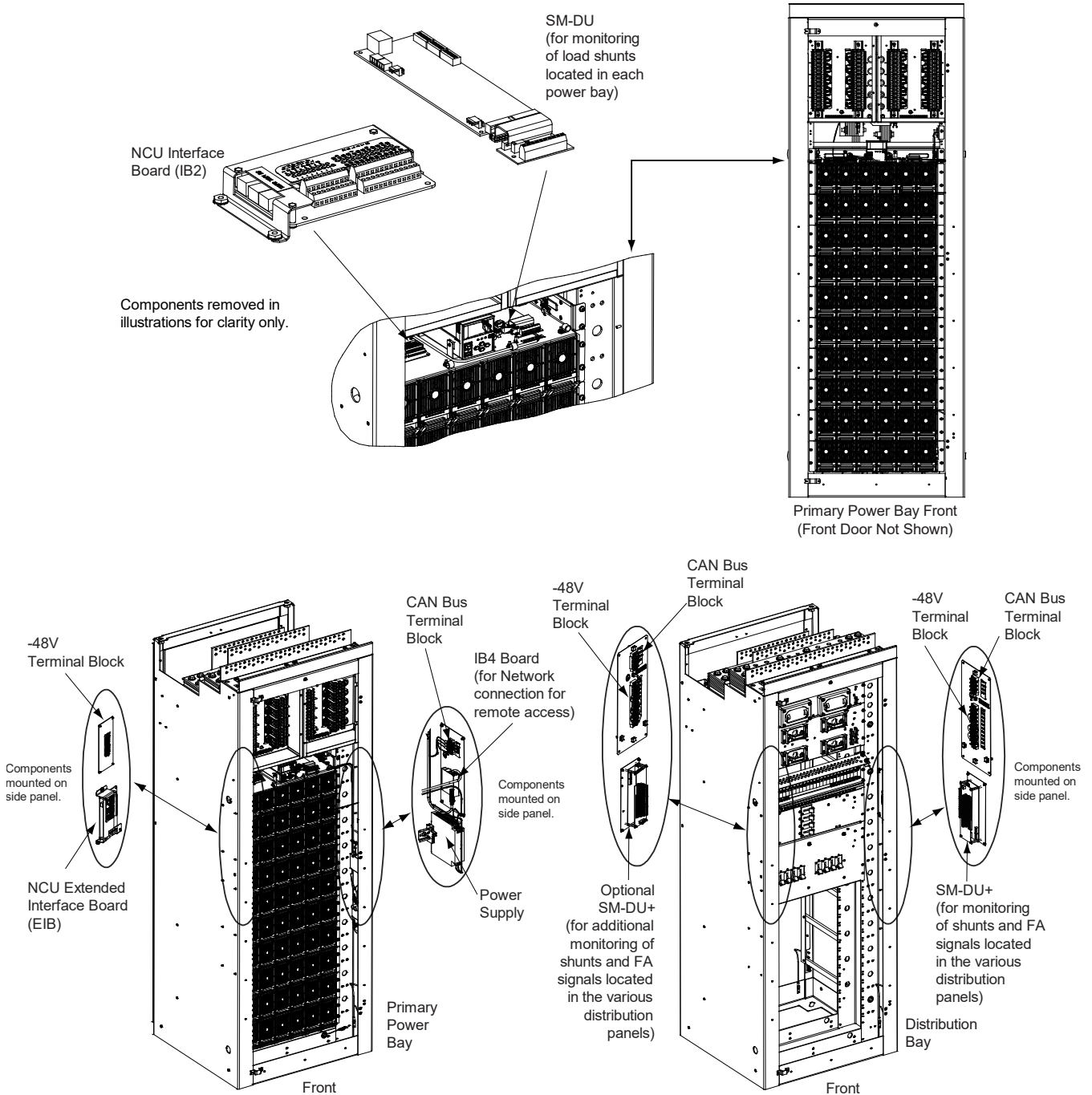
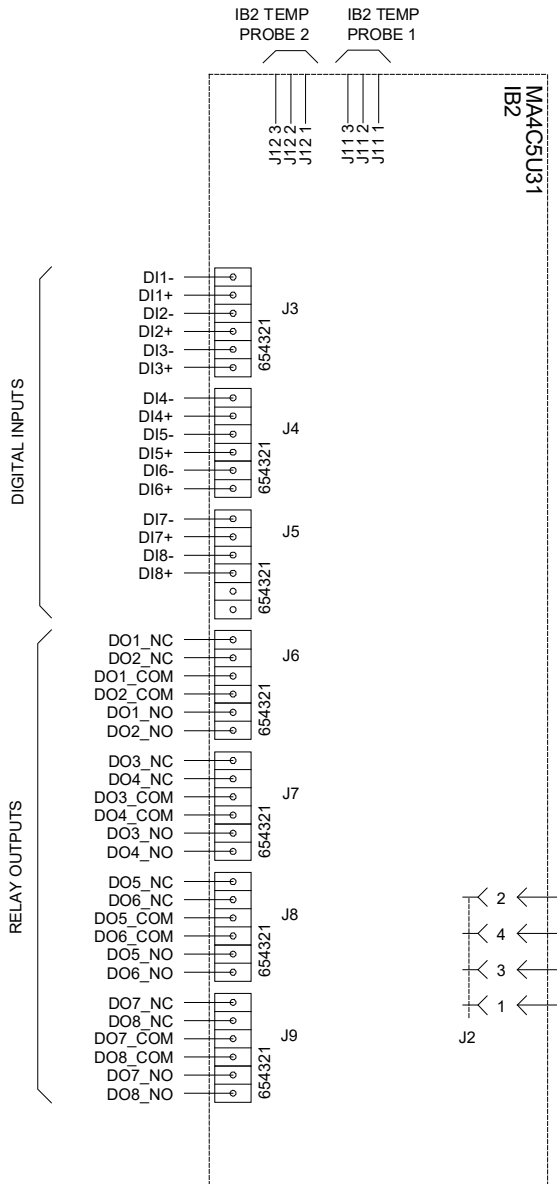


Figure 22

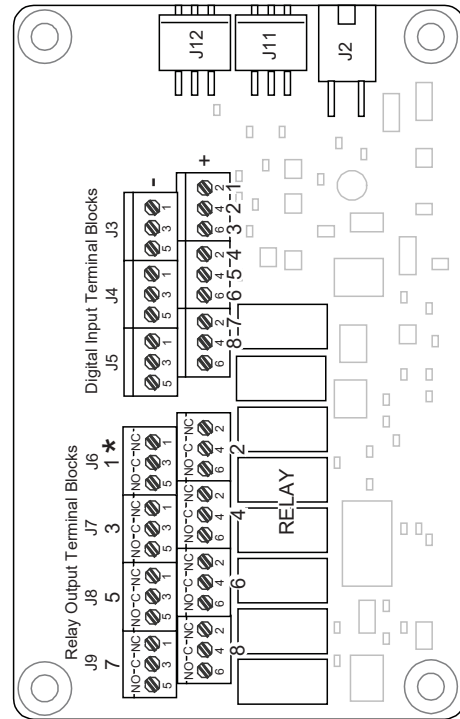
Vertiv™ NetSure™ 7200 DC Power System System Application Guide

NCU Interface Board (IB2) Illustration

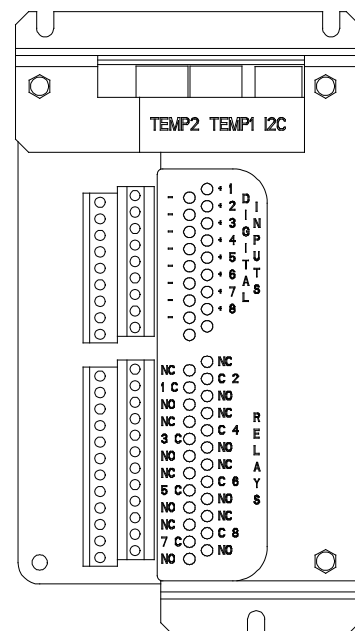
Schematic Diagram of IB2 Board



IB2 Board (Top View)



IB2 Board Assembly



* The NCU relay assigned to "Critical Summary" alarm (relay 1 by default) will operate in the "Fail Safe Mode". "Fail Safe Mode" means Relay 1 is de-energized during an alarm condition, opening the contacts between the C and NO terminals, and closing the contacts between the C and NC terminals.

The NCU's remaining seven (7) relays energize during an alarm condition, closing the contacts between the C and NO terminals, and opening the contacts between the C and NC terminals.

Not all I/O points are available for customer connection (some are used for factory system connections).

J3-J9:

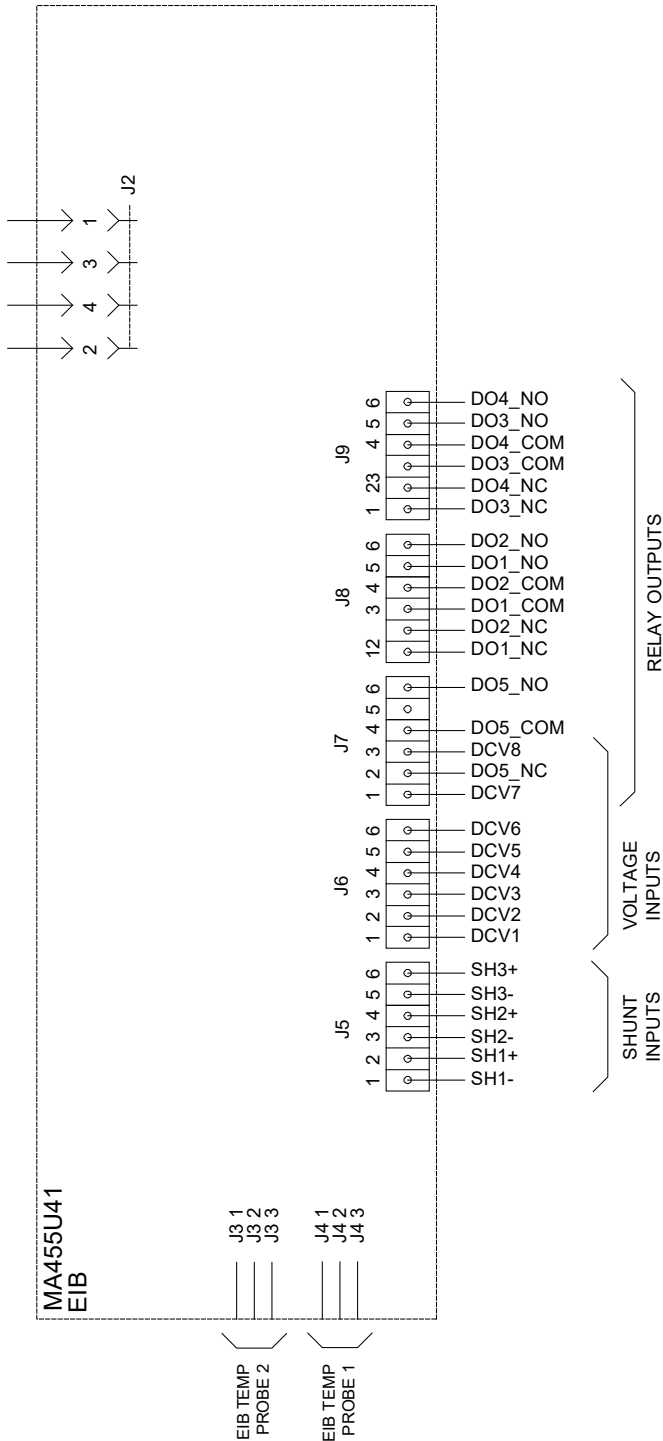
Wire Size Capacity: 16-26 AWG.

Recommended Torque: 2.2 in-lbs.

Figure 23

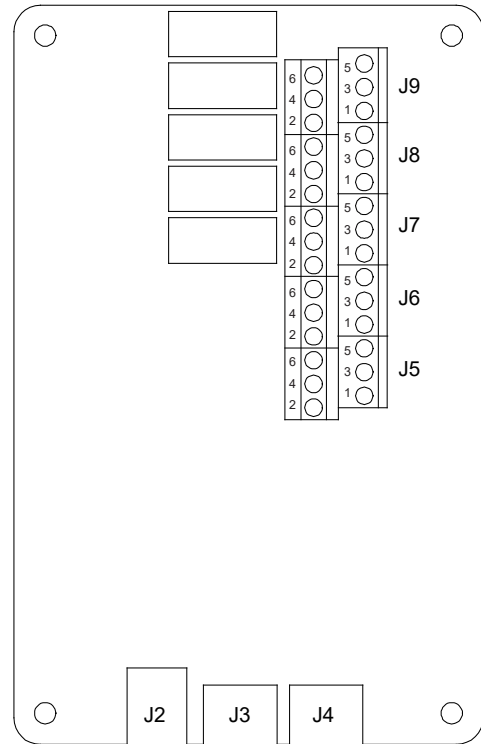
NCU Extended Interface Board (EIB) Illustration

Schematic Diagram of EIB Board



J5-J9
Wire Size Capacity: 16-26 AWG.
Recommended Torque: 2.2 in-lbs.

EIB Board (Top View)



EIB Board Assembly

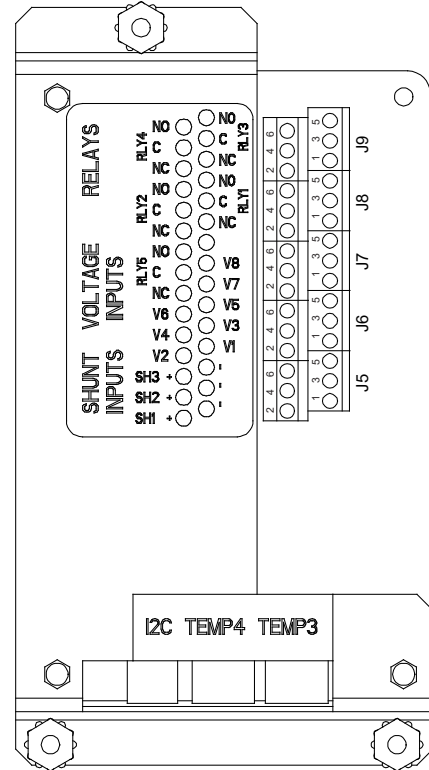
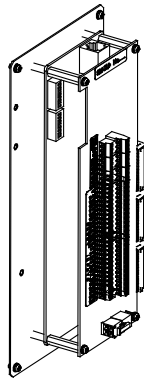
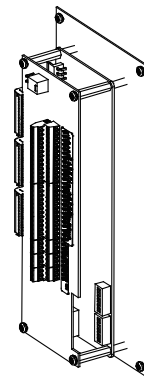


Figure 24

SM-DU+ Illustrations



Terminal Blocks
Wire Size Capacity: 16-26 AWG.
Recommended Torque: 2.2 in-lbs.



Optional SM-DU+ and Shunt/FA Interface Assembly (for additional monitoring of shunts and FA signals located in the various distribution panels)

SM-DU+ and Shunt/FA Interface Assembly (for monitoring of shunts and FA signals located in the various distribution panels)

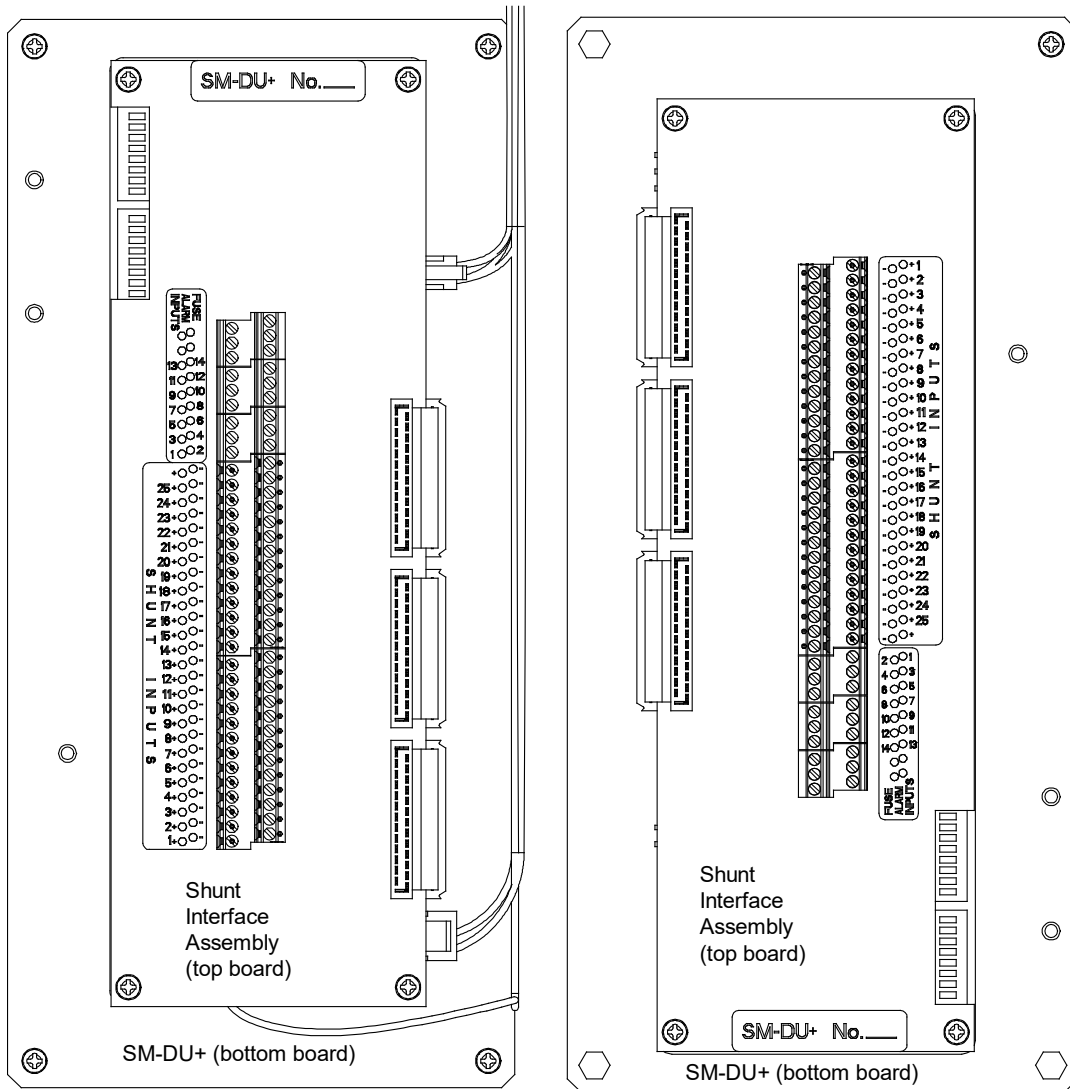


Figure 25

Bay-to-Bay Cable Connections

CAN Bus Connections

This system utilizes the NCU CAN Bus to interconnect the following components to the NCU controller: Primary Power Bay SM-DU, Primary Power Bay Rectifiers, Distribution Bay Standard SM-DU+, and Distribution Bay Optional SM-DU+. Note that a termination resistor must be installed at the end of this CAN Bus run. Note also that each secondary power bay contains its own CAN Bus run for that bay only.

Terminal Locations

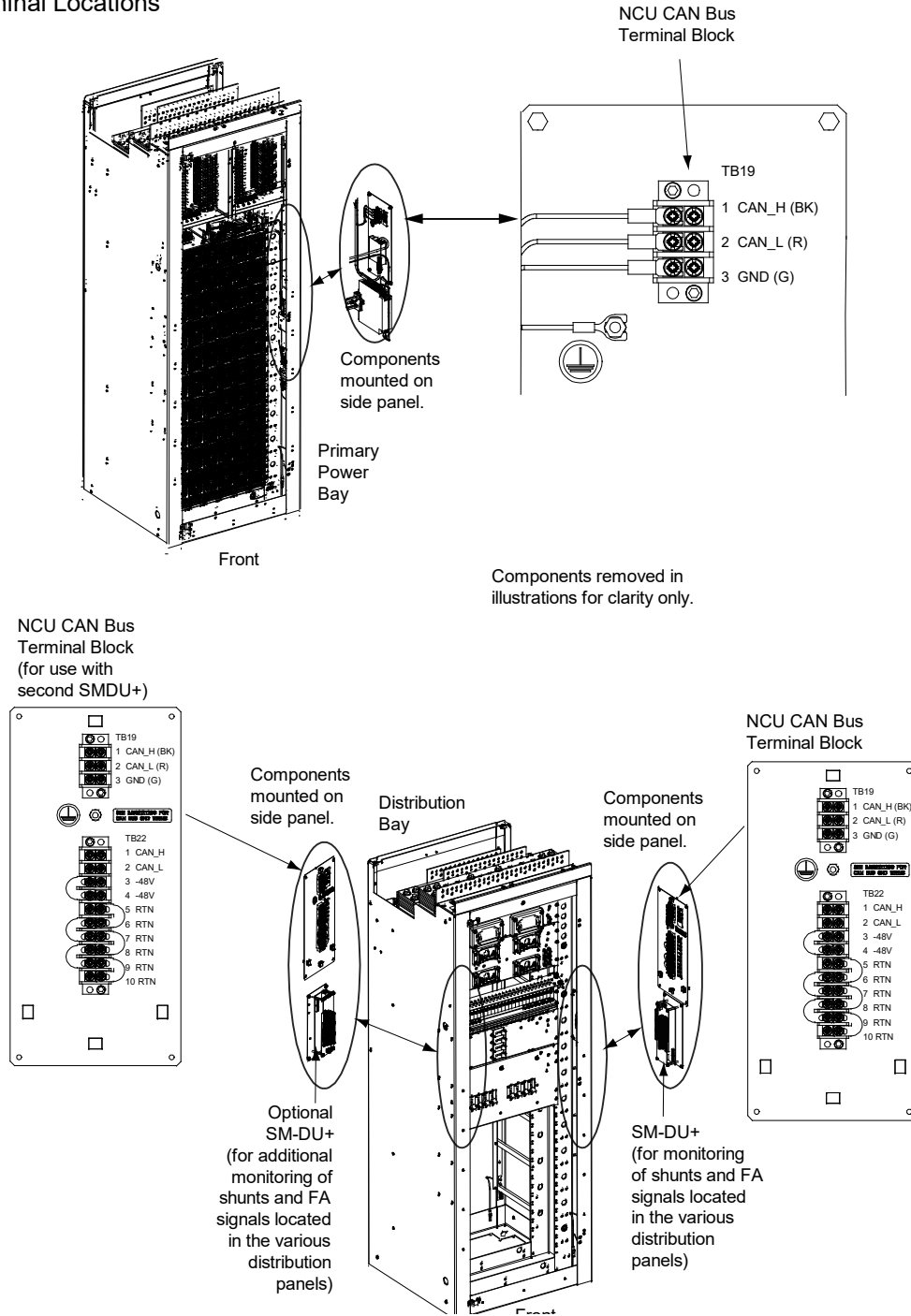


Figure 26 (cont'd on next page)

Primary Power Bay Only

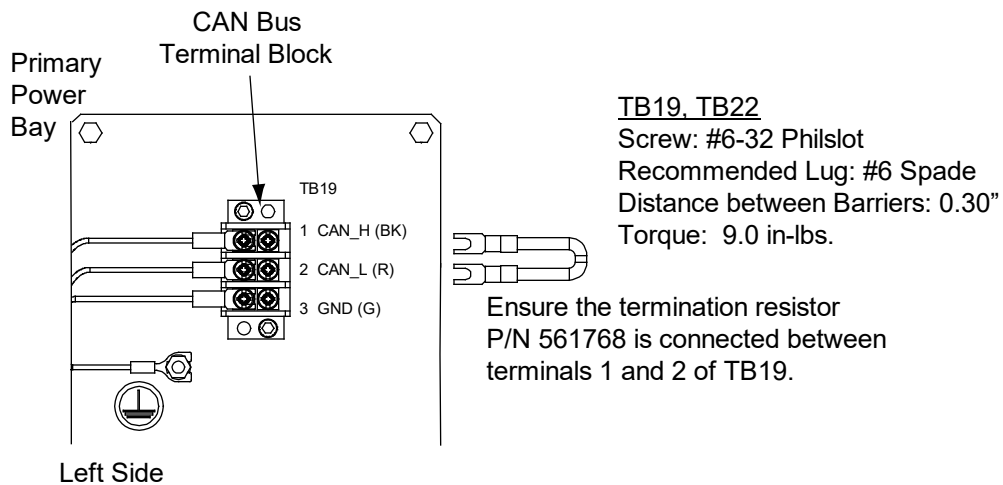
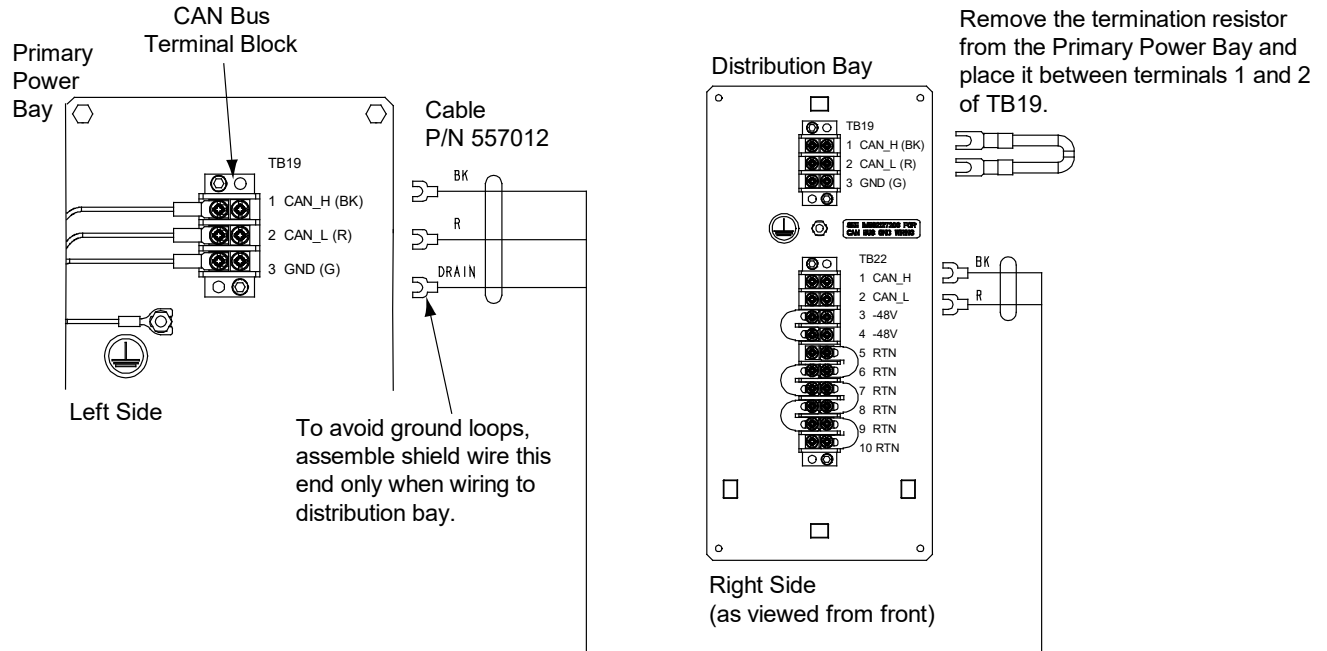


Figure 26 (cont'd from previous page, cont'd on next page)

Primary Power Bay
and Distribution Bay
with One (1) Standard
SM-DU+



TB19, TB22
Screw: #6-32 Philslot
Recommended Lug: #6 Spade
Distance between Barriers: 0.30"
Torque: 9.0 in-lbs.

Cable P/N 557012
CAN_H: Black Wire
CAN_L: Red Wire
Ground: Green Wire (Drain Wire from Cable P/N 557012)
To avoid ground loops, ground only at the originating end of this cable (closest to power bay).

Figure 26 (cont'd from previous page, cont'd on next page)

Primary Power Bay
and Distribution Bay
with One (1) Standard
SM-DU+ and One (1)
Optional SM-DU+

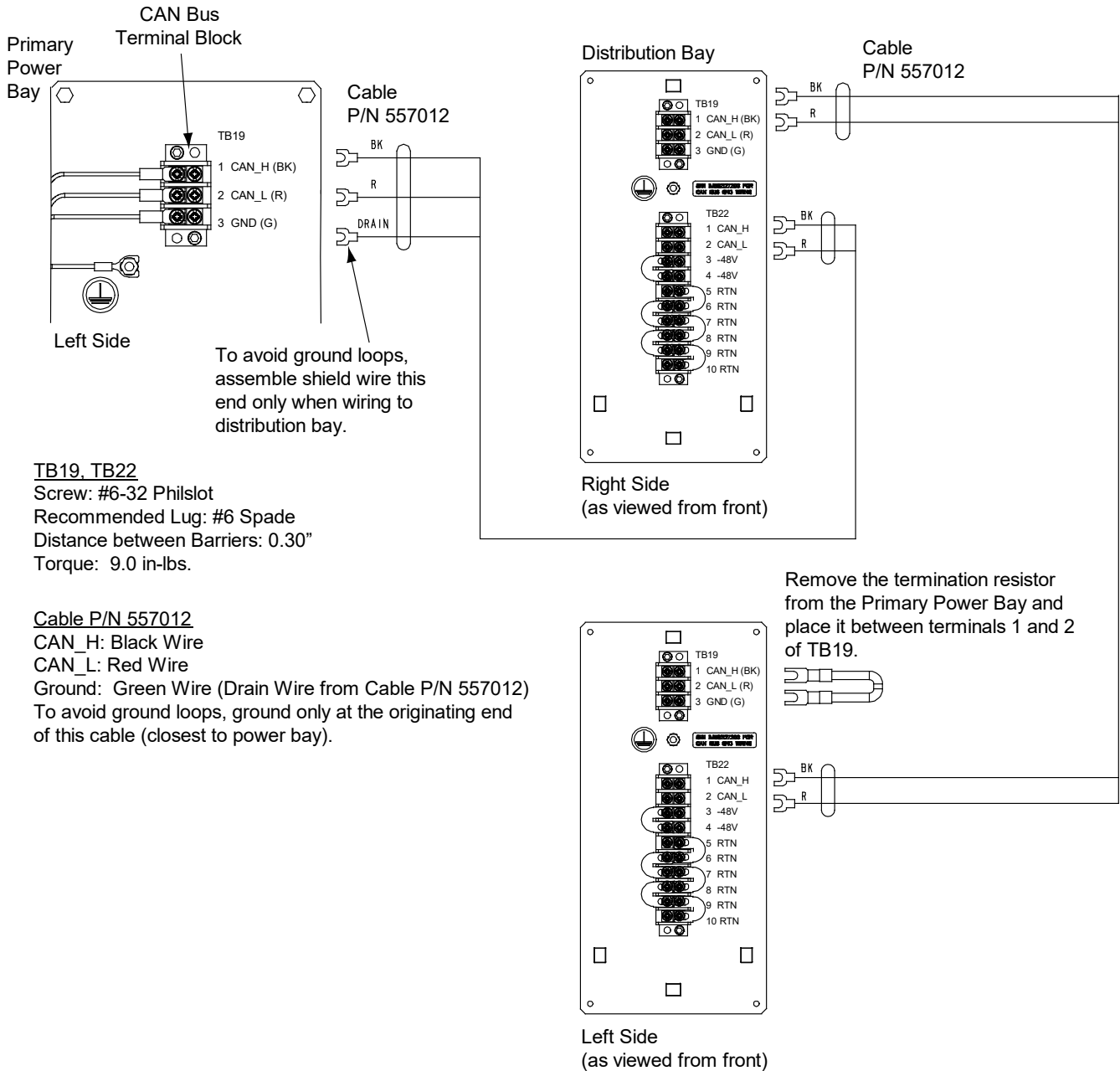
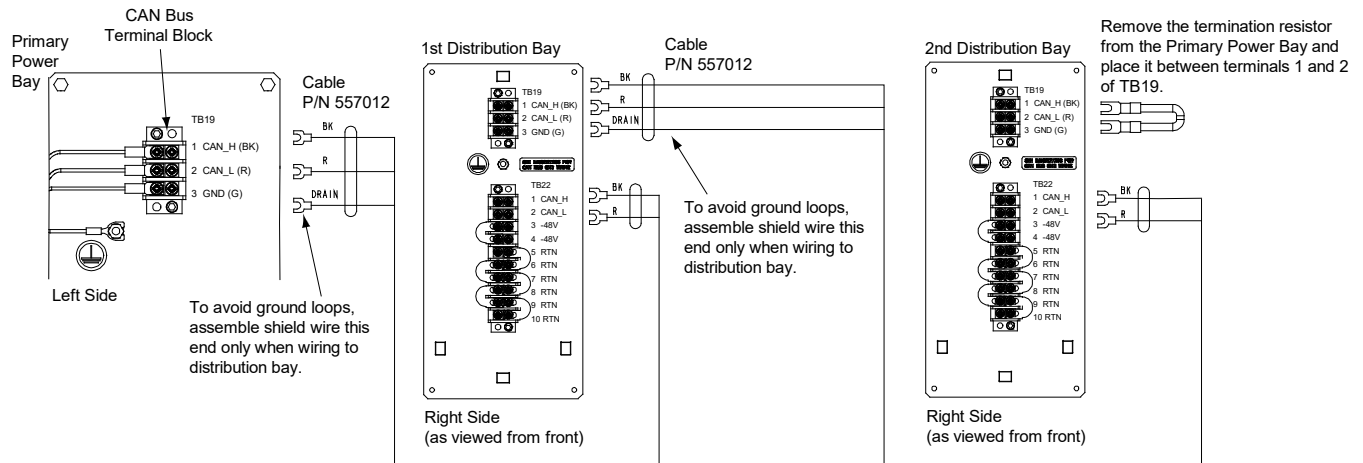


Figure 26 (cont'd from previous page, cont'd on next page)

Vertiv™ NetSure™ 7200 DC Power System

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Primary Power Bay
and 1st Distribution Bay
with One (1) Standard SM-DU+
and 2nd Distribution Bay with
One (1) Standard SM-DU+



TB19, TB22
Screw: #6-32 Philslot
Recommended Lug: #6 Spade
Distance between Barriers: 0.30"
Torque: 9.0 in-lbs.

Cable P/N 557012
CAN_H: Black Wire
CAN_L: Red Wire
Ground: Green Wire (Drain Wire from Cable P/N 557012)
To avoid ground loops, ground only at the originating end of this cable (closest to power bay).

Figure 26 (cont'd from previous page, cont'd on next page)

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Primary Power Bay
and 1st Distribution Bay
with One (1) Standard SM-DU+
and One (1) Optional SM-DU+
and 2nd Distribution Bay with
One (1) Standard SM-DU+

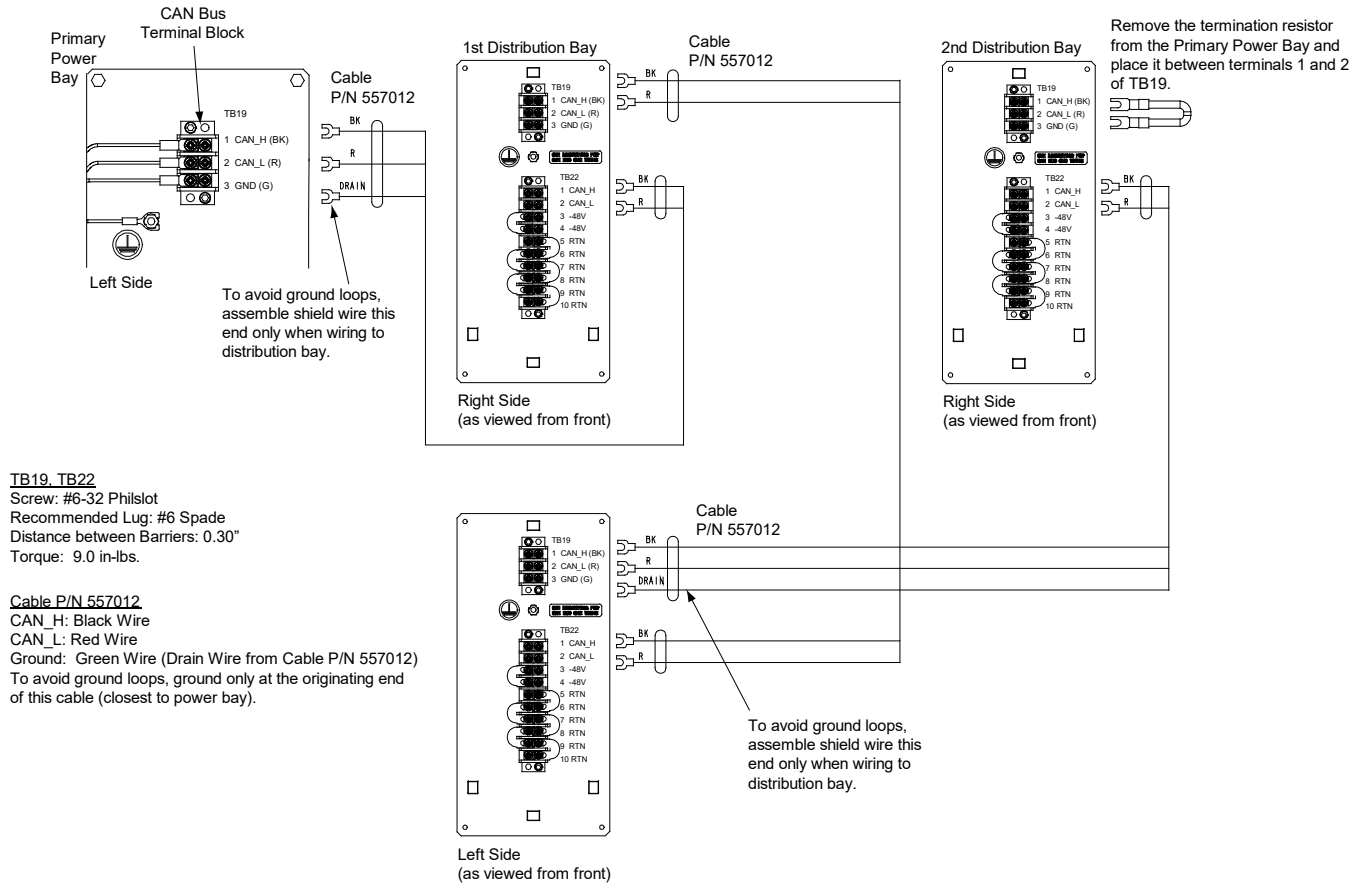


Figure 26 (cont'd from previous page, cont'd on next page)

Vertiv™ NetSure™ 7200 DC Power System

System Application Guide

Primary Power Bay
and 1st Distribution Bay
with One (1) Standard SM-DU+
and 2nd Distribution Bay with
One (1) Standard SM-DU+
and One (1) Optional SM-DU+

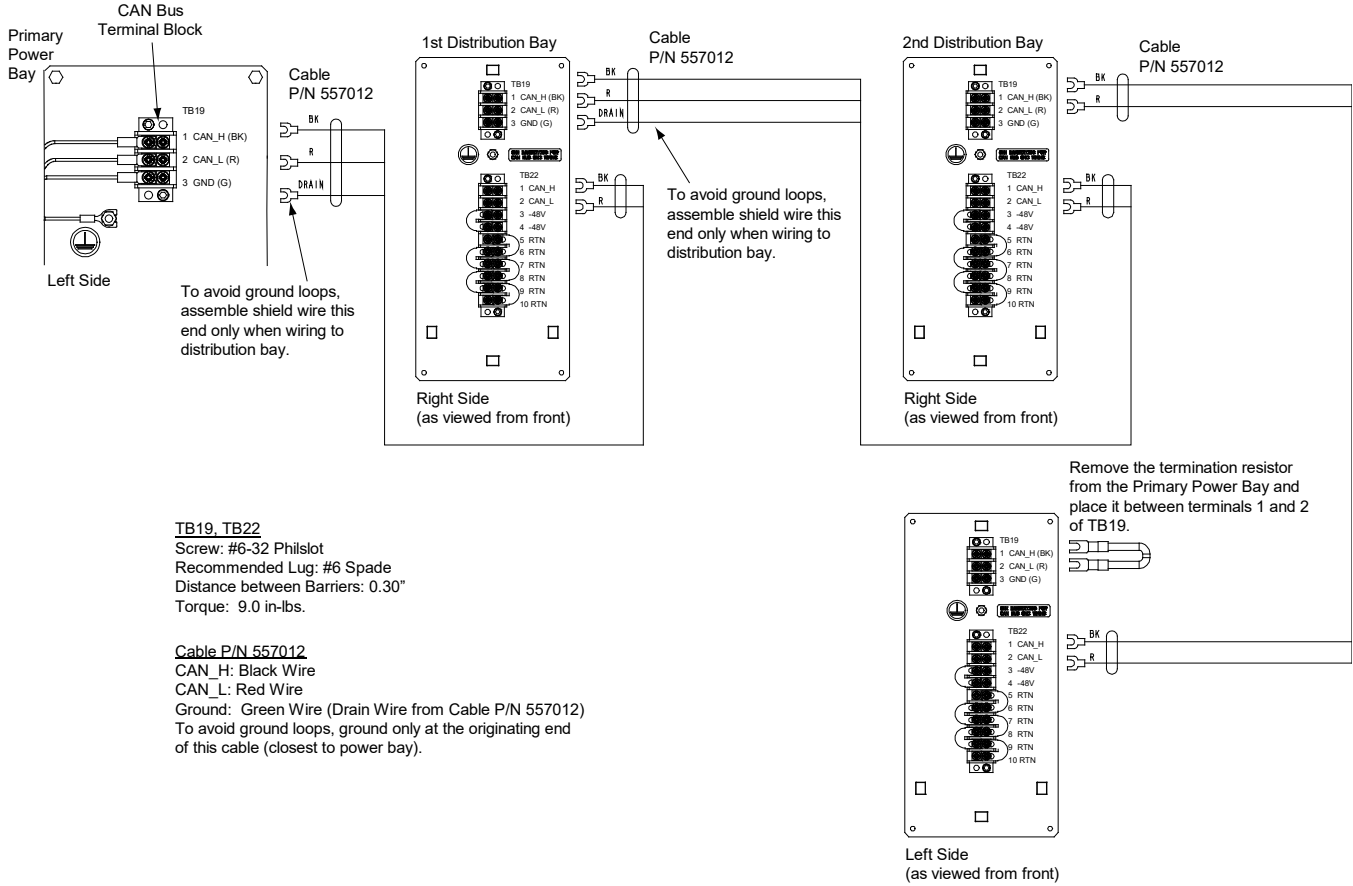


Figure 26 (cont'd from previous page)

Vertiv™ NetSure™ 7200 DC Power System

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RS-485 Connections

This system utilizes the NCU RS-485 Bus to interconnect the NCU controller in the primary power bay to the secondary control module located in each secondary power bay. Note that a termination resistor must be installed at the end of this RS-485 run as described in the System Installation Instructions (IM582127200).

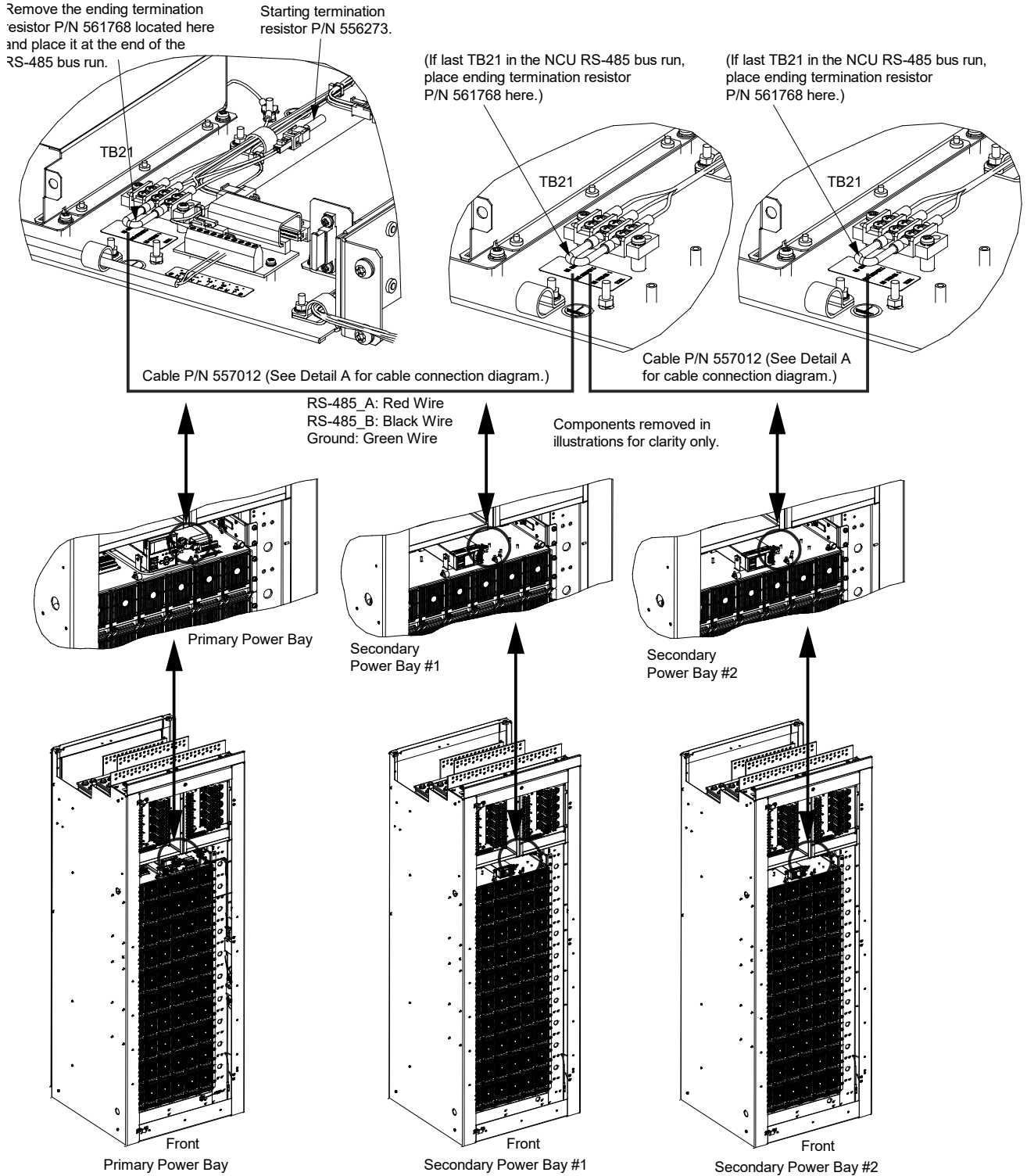


Figure 27 (cont'd on next page)

Vertiv™ NetSure™ 7200 DC Power System

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Detail A Cable Connection Diagram

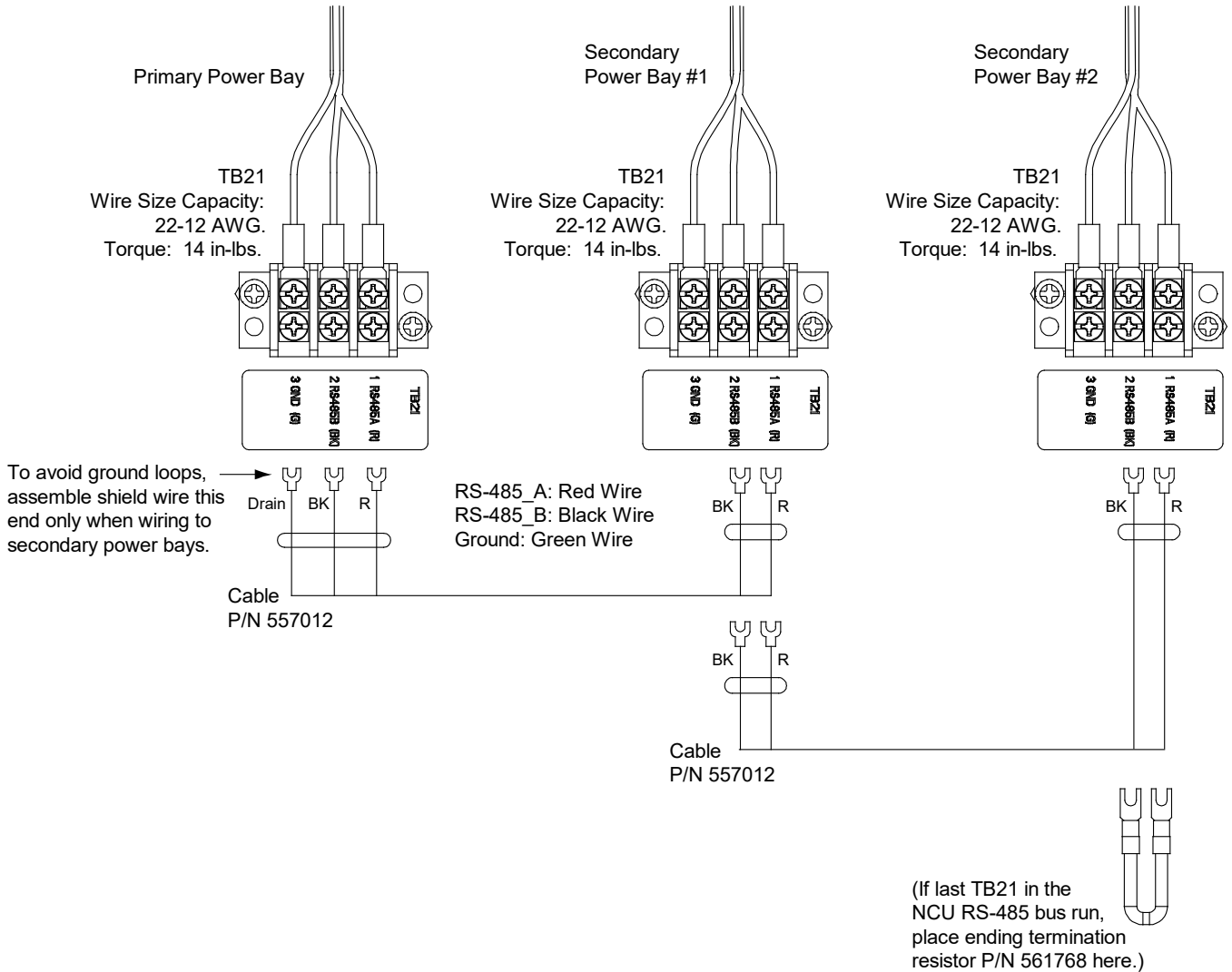


Figure 27 (cont'd from previous page)

Vertiv™ NetSure™ 7200 DC Power System

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Secondary Power Bay Shunt Connections

An SM-DU module is mounted in the primary power bay for connection of the internal load shunts provided in each power bay.

Components removed in illustrations for clarity only.

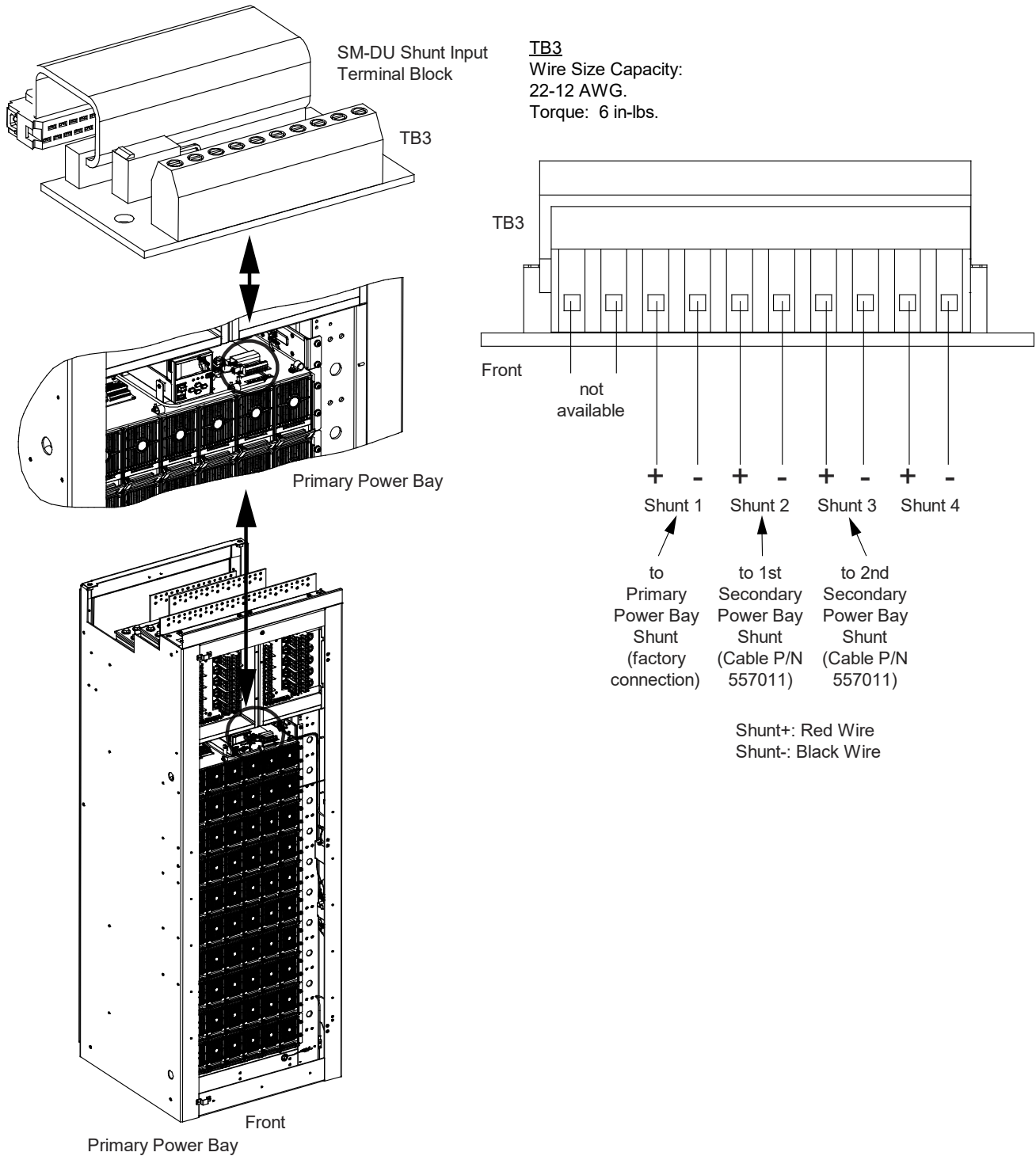


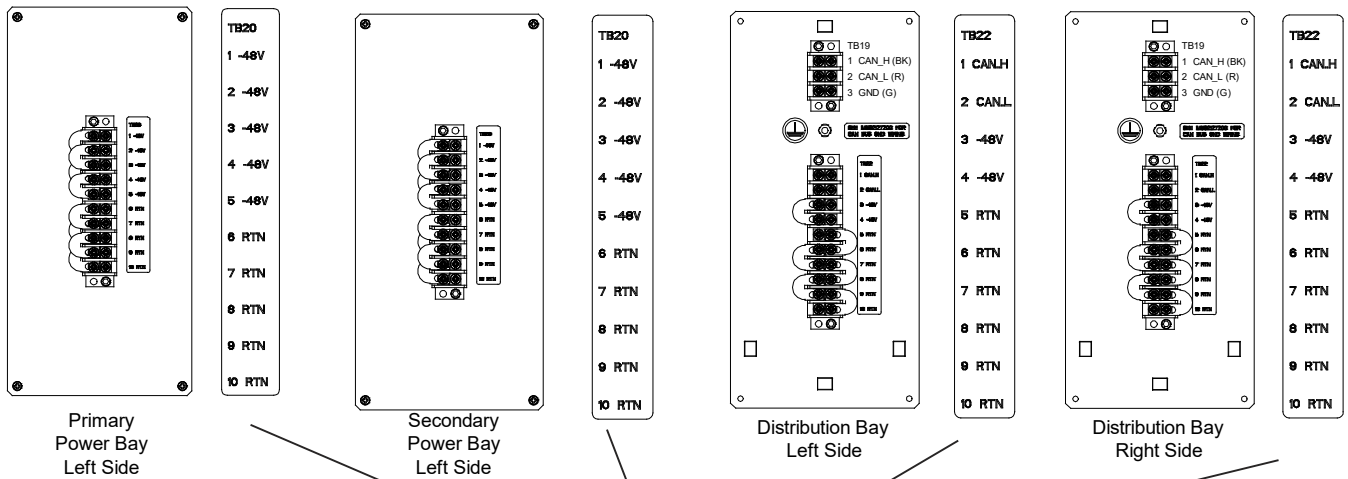
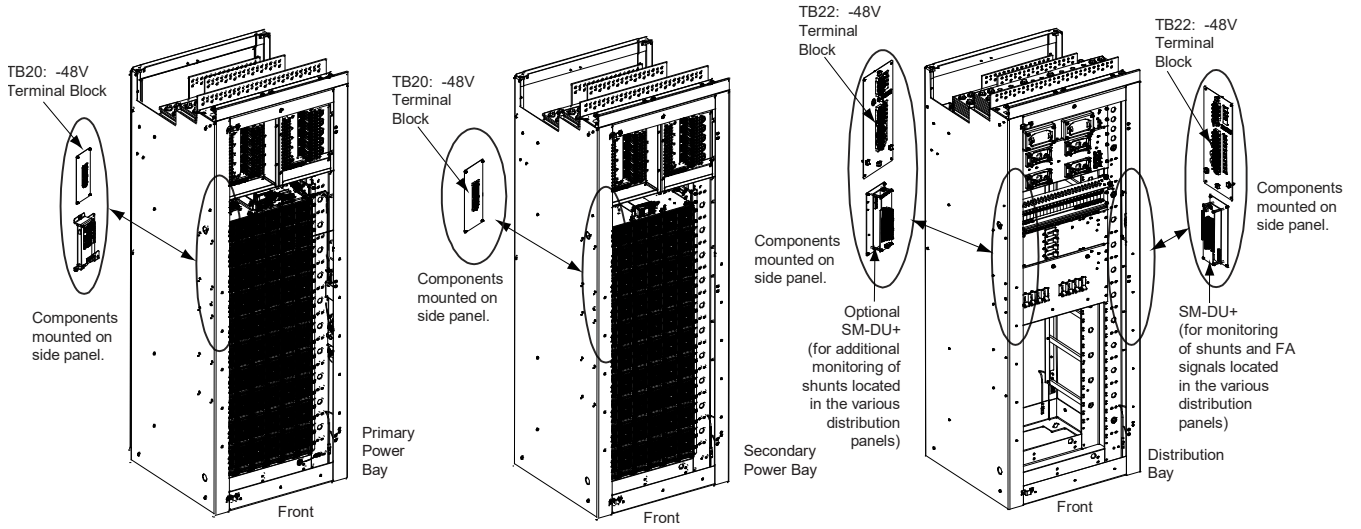
Figure 28

Vertiv™ NetSure™ 7200 DC Power System

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Distribution Bay SM-DU+ Power Connections

Power must be supplied to each SM-DU+ installed in a distribution bay from the appropriate terminals in any power bay.



TB20, TB22
 Screw: #6-32 Philips
 Recommended Lug: #6 Spade
 Distance between Barriers: 0.30"
 Torque: 9.0 in-lbs.

Use cable P/N 557012 to connect -48V and RTN from a power bay to the left or right side terminals of a distribution bay. Connect -48V power bay terminal to -48V distribution bay terminal and RTN power bay terminal to RTN distribution bay terminal. Use a cable for each SM-DU+ installed in the distribution bay.

-48V: Red Wire
 RTN: Black Wire

Components removed in illustrations for clarity only.

Figure 29

SPECIFICATIONS

1. SYSTEM

1.1 System DC Output Ratings

1.1.1 See page 3.

1.2 System AC Input Ratings

1.2.1 See page 3.

1.3 System Environmental Ratings

1.3.1 Operating Ambient Temperature Range: 0°C to +40°C (+32°F to +104°F).

1.3.2 Storage Ambient Temperature Range: -40°C to +85°C (-40°F to +185°F).

1.3.3 Humidity: Capable of operating in an ambient relative humidity range of 0% to 95%, non-condensing.

1.3.4 Altitude: The maximum operating ambient temperature should be derated by 10°C at an elevation of 10,000 feet above sea level. For elevations between 3,000 feet and 10,000 feet, derate the maximum operating ambient temperature linearly.

1.3.5 Ventilation Requirements: The rectifier modules are fan cooled and utilize front to back forced ventilation. The power bays must be mounted so ventilating openings are not blocked and temperature of the air entering the rectifier module mounting shelf does not exceed the Operating Ambient Temperature Range stated above.

1.3.6 Heat Rejection (Dissipation): 42,750 BTU/hr (12,500W) maximum.

1.3.7 Audible Noise: ≤ 78dB(A), at 27°C (measurement made at 1m distances in front of system at full load).

1.3.8 Surge Protection: Compliance with EN61000-4-5 Installation Class 4, and capable of withstanding surges per ANSI/IEEE C 62.41 1999 Category B3 across the input terminals.

Note: *This level of protection is a widely used standard for telecommunications power equipment. As with all such equipment, it is the end user's responsibility to provide an adequately sized Surge Suppression Device (Type 1) at the commercial power service entrance of the building that reduces all incoming surges to levels below the classes/categories stated for the equipment.*

1.3.9 Mounting: This product is intended only for installation in a restricted access location on or above a non-combustible surface.

This product must be located in a controlled environment with access to crafts persons only.

This product is intended for installation in network telecommunication facilities (CO, vault, hut, or other environmentally controlled electronic equipment enclosure).

This product is intended to be connected to the common bonding network in a network telecommunication facility (CO, vault, hut, or other environmentally controlled electronic equipment enclosure).

The DC return connection to this system can remain isolated from system frame and chassis (DC-I).

This system is suitable for installation as part of the Common Bonding Network (CBN).

Rectifier and module mounting shelf ventilating openings must not be blocked and temperature of air entering rectifiers must not exceed the rated operating ambient temperature range.

Clearance requirements are:

- a) Recommended minimum aisle space clearance for the front of each bay is 2'6".
- b) Recommended minimum aisle space clearance for the rear of each bay is 2'0".

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1.4 System Compliance Information

1.4.1 Safety Compliance:

- (A) Power Bay (pending): This unit meets the requirements of UL 60950, Standard for Information Technology Equipment, and is UL Listed as a power supply for use in Telephone, Electronic Data Processing or Information Processing Equipment.
- (B) Distribution Bay: This power board is UL Listed ("c UL") as a DC Power Distribution Center for Communications Equipment.

1.4.2 NEBS Compliance (pending for power bay): Compliance verified by a Nationally Recognized Testing Laboratory (NRTL) per GR-1089-CORE and GR-63-CORE. Contact Vertiv for NEBS compliance reports.

Rectifier Modules: In order to remain compliant during a fan failure condition, the backup battery connection must be utilized to provide sufficient power to the loads for up to eight (8) hours when the system is operated at greater than 50% output power. If no backup battery connection is used, the system must operate with a redundant module installed.

1.5 IB2 and EIB (NCU Interface Board) Ratings

1.5.1 Digital Input Ratings

- (A) Maximum Voltage Rating: 60V DC.
- (B) Active High: > 19V DC.
- (C) Active Low: < 1V DC.

1.5.2 Relay Ratings

- (A) Steady State: 0.5 A @ 60V DC; 1.0 A @ 30V DC.
- (B) Peak: 3 A @ 30V DC.

1.6 Local Controls and Indicators

1.6.1 Primary Power Bay "System Alarm" Indicator: Located at the top center of the primary power bay.

- (A) Red = System Failure

1.6.2 Distribution Bay "Fuse / Circuit Breaker Alarm" Indicator: Located at the top center of each distribution bay.

- (A) Red = Fuse / Circuit Breaker Alarm

1.6.3 External Control Circuits: Provided via the NCU. Refer to the NCU controller instructions (UM1M830BNA) and NCU Controller Configuration Drawing (C-drawing).

1.6.4 External Alarm Circuits: Provided via the NCU. Refer to the NCU controller instructions (UM1M830BNA) and NCU Controller Configuration Drawing (C-drawing).

2. RECTIFIER

For rectifier specifications, refer to the rectifier instructions (UM1R483500e).

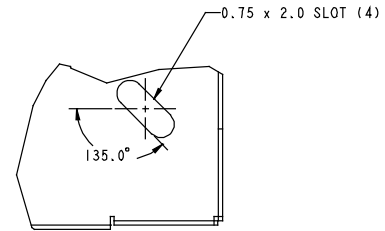
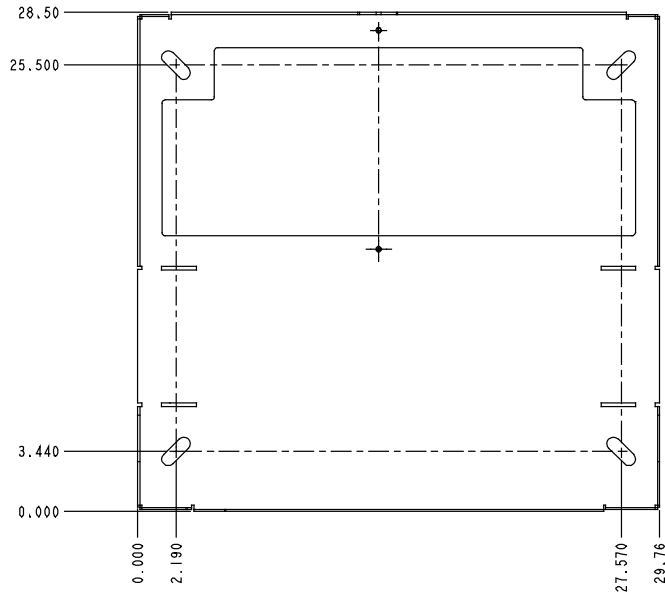
3. NCU CONTROLLER

For NCU Controller specifications, refer to the NCU controller instructions (UM1M830BNA).

For NCU Controller factory settings, refer to the NCU Controller Configuration Drawing (C-drawing).

MECHANICAL SPECIFICATIONS

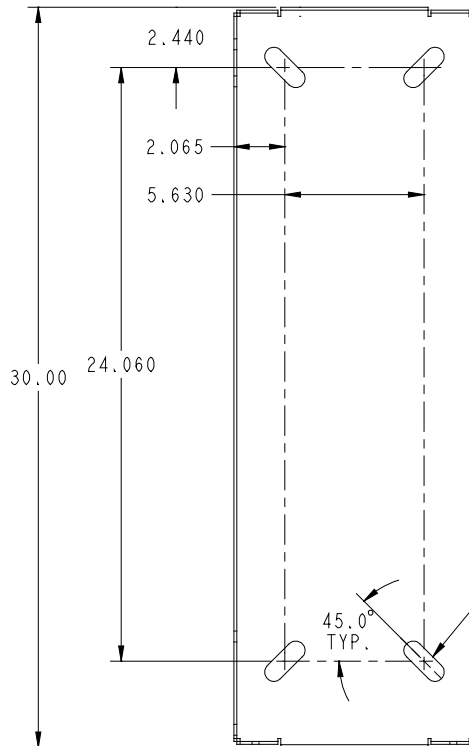
Floor Hole Drilling Pattern Dimensions, Power and Distribution Bay



- Notes:
1. All dimensions are in inches, unless otherwise specified.

Figure 30

Floor Hole Drilling Pattern Dimensions, Transition Bay

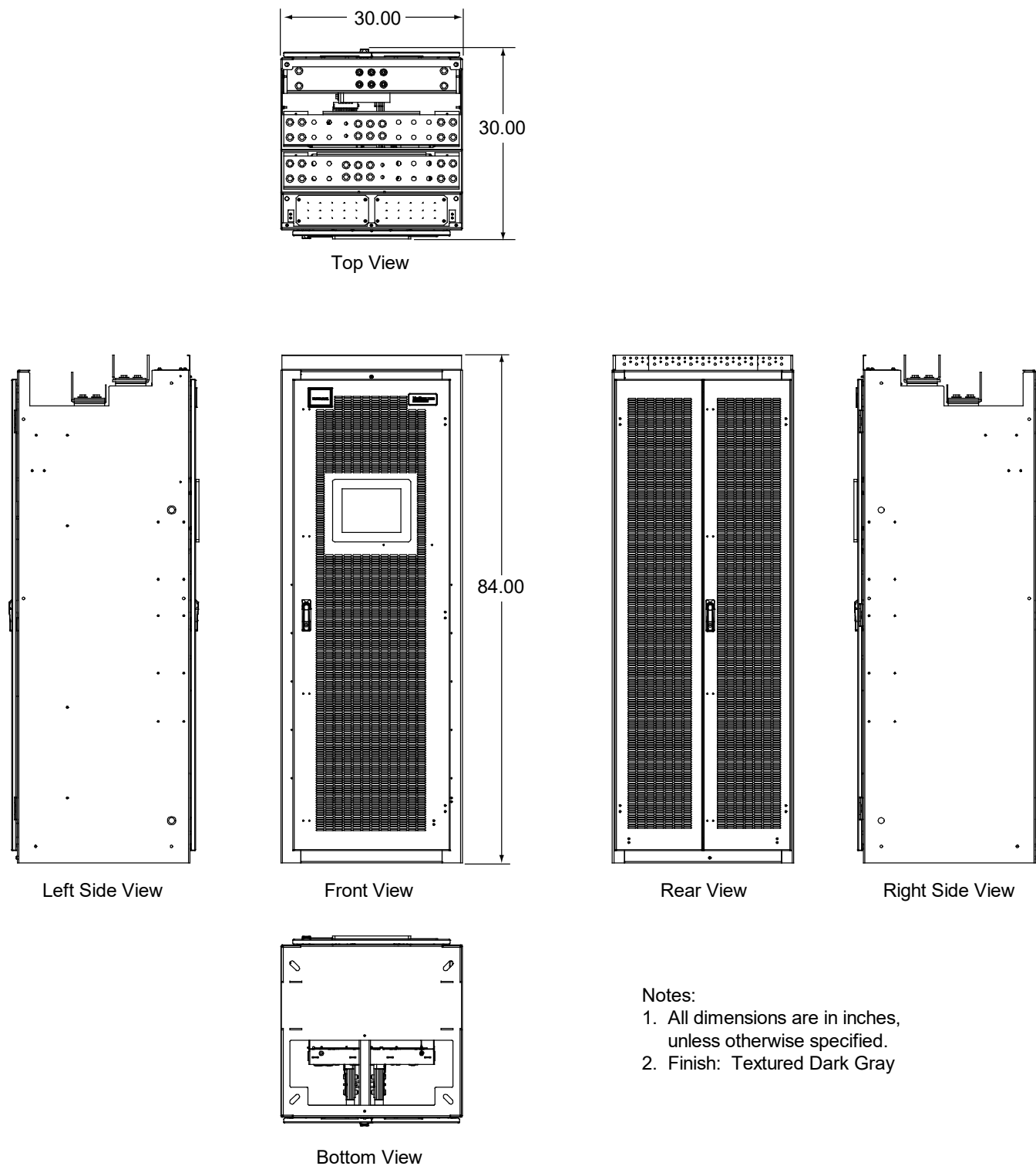


- Notes:
1. All dimensions are in inches, unless otherwise specified.

0.75 x 2.00 SLOT
(4 PLCS)

Figure 31

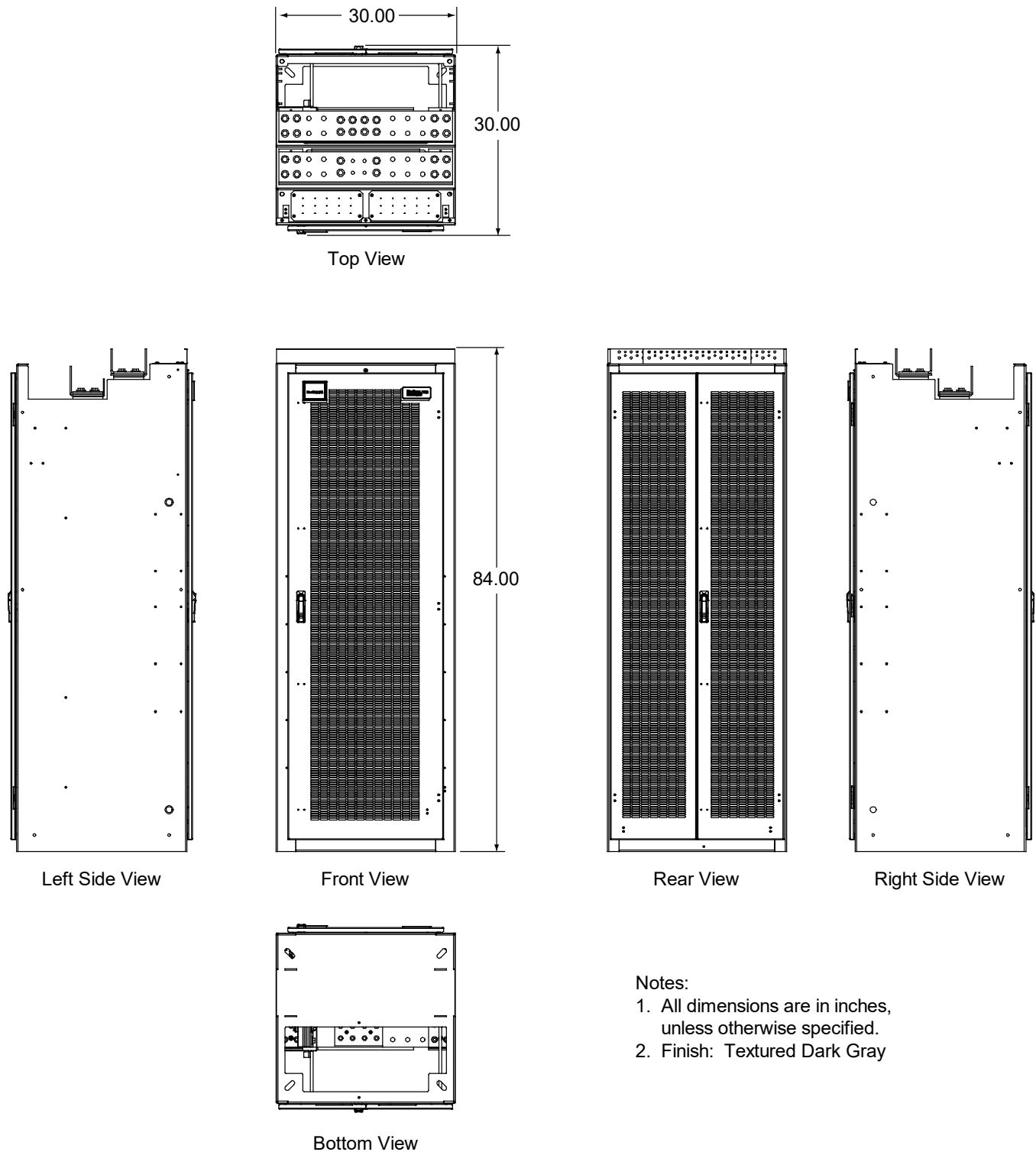
Overall Dimensions, Power Bay



- Notes:
1. All dimensions are in inches, unless otherwise specified.
 2. Finish: Textured Dark Gray

Figure 32

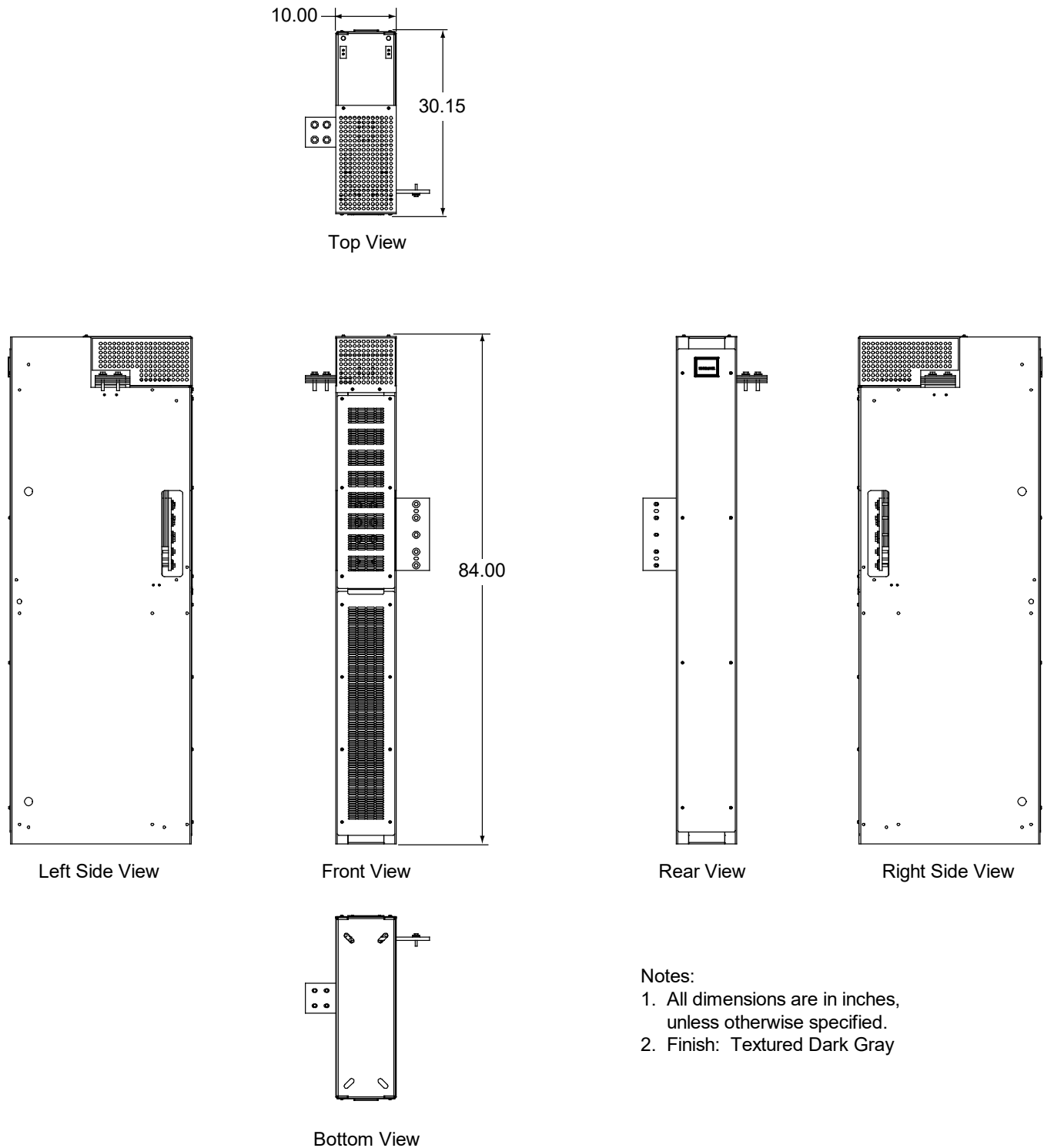
Overall Dimensions, Distribution Bay



- Notes:
1. All dimensions are in inches, unless otherwise specified.
 2. Finish: Textured Dark Gray

Figure 33

Overall Dimensions, Transition Bay



- Notes:
1. All dimensions are in inches, unless otherwise specified.
 2. Finish: Textured Dark Gray

Figure 34

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Weights

List Number or Part Number	Net Weight (lbs), each	Description
Power Bay		
58212720001 58212720003 58212720005 58212720007 58212720011 58212720013 58212720015	981 1071 1153	Primary Power Bay e/w 4000 A Busbars (w/out rectifiers) Primary Power Bay e/w 8000 A Busbars (w/out rectifiers) Primary Power Bay e/w 12000 A Busbars (w/out rectifiers)
58212720002 58212720004 58212720006 58212720008 58212720012 58212720014 58212720016	975 1065 1147	Secondary Power Bay e/w 4000 A Busbars (w/out rectifiers) Secondary Power Bay e/w 8000 A Busbars (w/out rectifiers) Secondary Power Bay e/w 12000 A Busbars (w/out rectifiers)
Rectifier Module		
1R483500e 1R483200e	7	Rectifier Module
Distribution Bay		
58212720020	1043 1134 1222	Distribution Bay e/w 4000 A Busbars (w/out distribution panels) Distribution Bay e/w 8000 A Busbars (w/out distribution panels) Distribution Bay e/w 12000 A Busbars (w/out distribution panels)
Distribution Panels		
582127200A	36	Distribution Panel (w/out distribution devices)
582127200B	38	Distribution Panel (w/out distribution devices)
582127200C	31	Distribution Panel (w/out distribution devices)
582127200D	19	Distribution Panel (w/out distribution devices)
582127200E	25	Distribution Panel (w/out distribution devices)
Optional Power Bay Top Mount -48V and Return Busbar Assemblies (Field Installed)		
557824 557823	45 86	8000 A Busbar Assembly 12000 A Busbar Assembly
Optional Distribution Bay Top Mount -48V Busbar Assemblies (Field Installed)		
557828 557827	48 92	8000 A Busbar Assembly 12000 A Busbar Assembly
Optional Distribution Bay Top Mount Return Busbar Assemblies (Field Installed)		
557829 557830 557831	66 109 153	4000 A Return Busbar Assembly 8000 A Return Busbar Assembly 12000 A Return Busbar Assembly
Transition Bay		
58212720026	338	Transition Bay
Bay-to-Bay Busbar Kit (Field Installed)		
558005 558006 558007	5 7 9	4000 A Bay-to-Bay Busbar Kit 8000 A Bay-to-Bay Busbar Kit 12000 A Bay-to-Bay Busbar Kit

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List Number or Part Number	Net Weight (lbs), each	Description
Optional Busbar, 45 Degree Landing Points (Field Installed)		
557694	5	-48V Busbar
557693	6	Return Busbar, Short
557692	9	Return Busbar, Long

RELATED DOCUMENTATION

System Installation Instructions:	IM582127200
System User Instructions:	UM582127200
NCU Controller Instructions:	UM1M830BNA
Rectifier Instructions:	UM1R483500e
Kit P/N 559404 Instructions:	IM559404
Schematic Diagram, System:	SD582127200
Schematic Diagram, List A:	SD582127200A
Schematic Diagram, List B:	SD582127200B
Schematic Diagram, List C:	SD582127200C
Schematic Diagram, List D:	SD582127200D
Schematic Diagram, List E:	SD582127200E
Wiring Diagram, System	T582127200

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