



eSure™ Power Extend Converter Mounting Bracket Kit

Installation Manual

Kit Specification Number: 60019000

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Technical Support Site

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

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

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Admonishments Used in this Document



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



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



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



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



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



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



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

Important Safety Instructions

Safety Admonishments Definitions

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

Safety and Regulatory Statements

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

Déclarations de Sécurité et de Réglementation

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

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1 Vertiv™ eSure™ Power Extend Converter Mounting Bracket Kit Installation Instructions

1.1 Kit Description

Mounting bracket kits have been designed to easily install a Vertiv™ eSure™ Power Extend Converter (Model C48/58-1000B, Spec. No. 1C48581000B) into a distribution position of a Vertiv™ NetSure™ Power System (see UM565050 for kit part numbers and descriptions). A mounting bracket kit must be used for grounding and mechanical support. See **Table 1** for the kit covered by these instructions.

These instructions provide a step-by-step procedure to field install a Vertiv™ eSure™ Power Extend Converter using the kit listed in **Table 1**. Installation of this kit in other systems not listed in **Table 1** should not be attempted.

Table 1: Power System Mounting Bracket Kit Covered by these Instructions

Mounting Bracket Kit P/N	Description
60019000	For use with Spec. No. 582137100102, 582137100104, and 582137100106 power systems.

1.2 Tools and Material Required

Table 2 lists the items required to install this kit.

Table 2: Tools and Material Required

Description
#1 Flat Blade Screw Driver, insulated
#2 Phillips Blade Screw Driver, insulated, 14" long shaft minimum
Torque Wrench, insulated (capable of being set from 9.6 in-lbs to 72 in-lbs)
3/8" Drive Ratchet and Socket Set, insulated
Power Extend Converter Kit (P/N 565050) (Model C48/58-1000B, Spec. No. 1C48581000B), quantity as needed

1.3 Mounting Bracket Kit Contents

Table 3 lists the items furnished as a part of the mounting bracket kit covered by these instructions. Before installing a mounting bracket kit, check the items furnished against those listed to ensure that there are no shortages.

Table 3: Mounting Bracket Kit P/N 60019000 Contents

P/N	Description	Qty.
60019001	Left Side Mounting Bracket	1
60019926	Right Side Mounting Bracket	1
60019003	Front Mounting Bracket	1
120412	#6-19 x 5/16" Screw (factory attached to left/right brackets)	4
152223	#6 Captive Screw Retainer (factory attached to left/right brackets)	4
152175	Hot Surfaces Caution Label (factory attached to left/right brackets)	2
GB9074_4-88_M5X14	M5 x 14 mm SEMS (factory attached to left/right brackets)	2
104123	M5 Captive Screw Retainer (factory attached to left/right brackets)	2
60010906	Panel Position Label, 30-Pos	1
151950	Storage Pouch	1
552423	Hook-and-Loop Fastener (factory attached to storage pouch)	1
566026	Toggle Breaker Guard Kit, includes... (Qty. 27) L-Shaped Guard Brackets (Qty. 27) #6-32 x 3/16" Screws (Qty. 27) M3-0.5 x 5 mm Screws	1

1.4 Mounting Bracket Kit Installation Procedure

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

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

1.4.1 Important Safety Instructions



DANGER! Adhere to the "Important Safety Instructions" starting on page v and those listed in the power system manual.



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



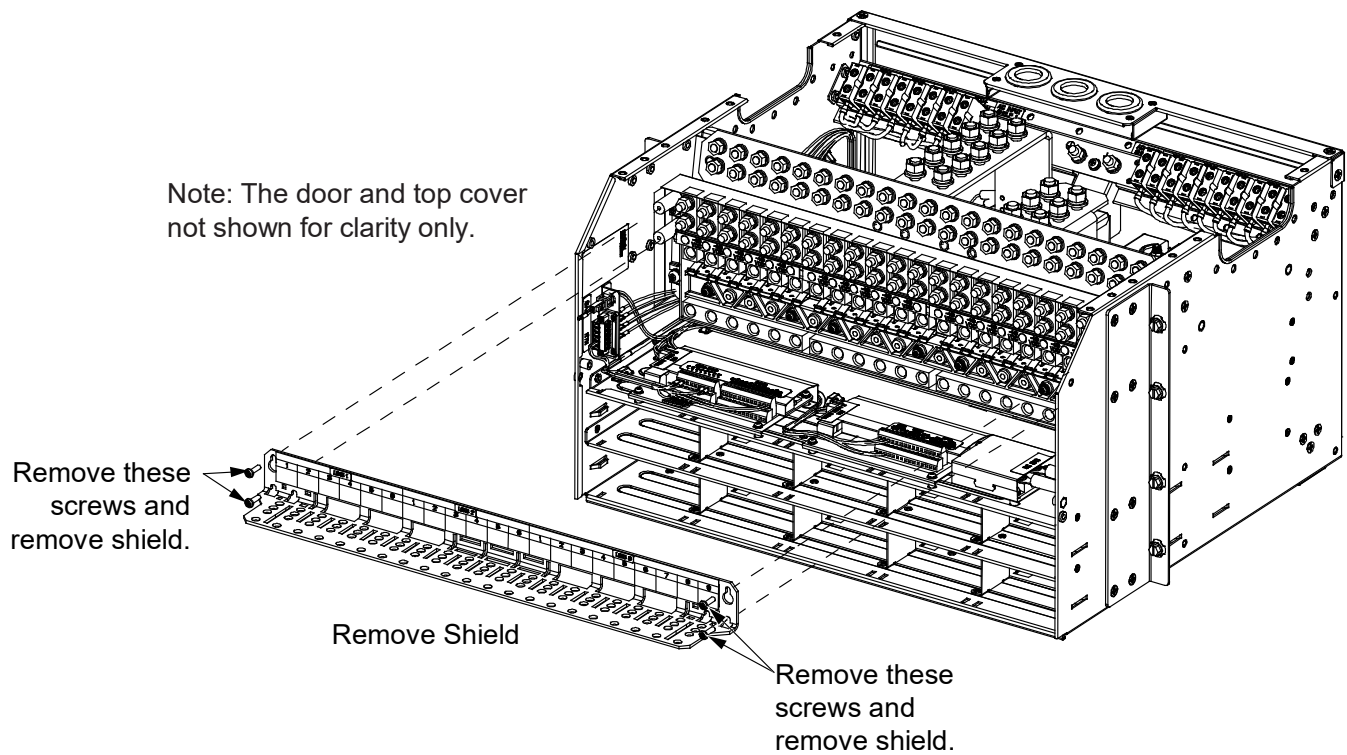
NOTE! When performing any step in this procedure which requires removal of existing hardware, retain all hardware for use in subsequent steps, unless otherwise stated.

1.4.2 Installing Mounting Bracket Kit P/N 60019000

Procedure

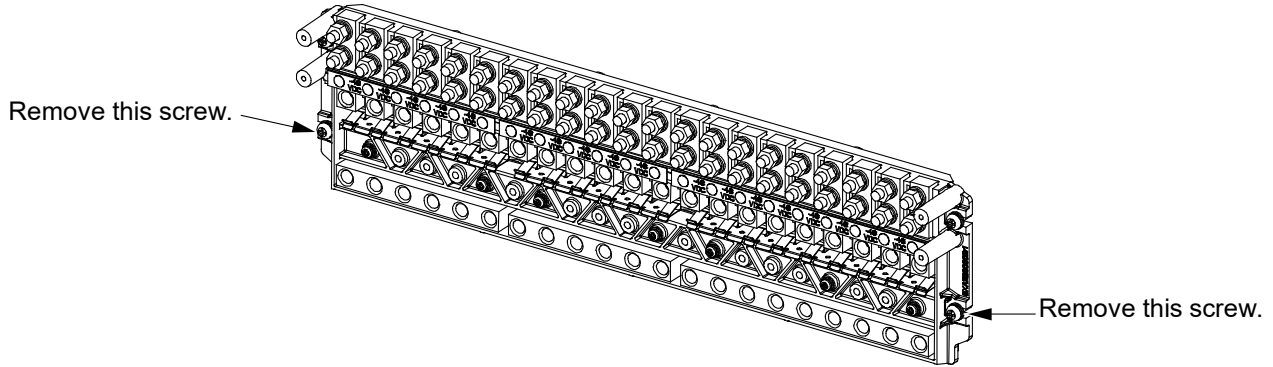
- [] 1. Performing this procedure may activate external alarms. Do one of the following. If possible, disable these alarms. If these alarms cannot be easily disabled, notify the appropriate personnel to disregard any future alarms associated with this system while the procedure is being performed.
- [] 2. Gain access to the distribution panel into which the power extend converter is to be installed.
- [] 3. If equipped, open the distribution panel front door.
- [] 4. Remove the shield from the distribution panel by loosening the screws securing it. Slide the shield up and out to remove it. Remove the screws just loosened. The shield and screws will not be reused. See **Figure 1**.

Figure 1: Remove Shield



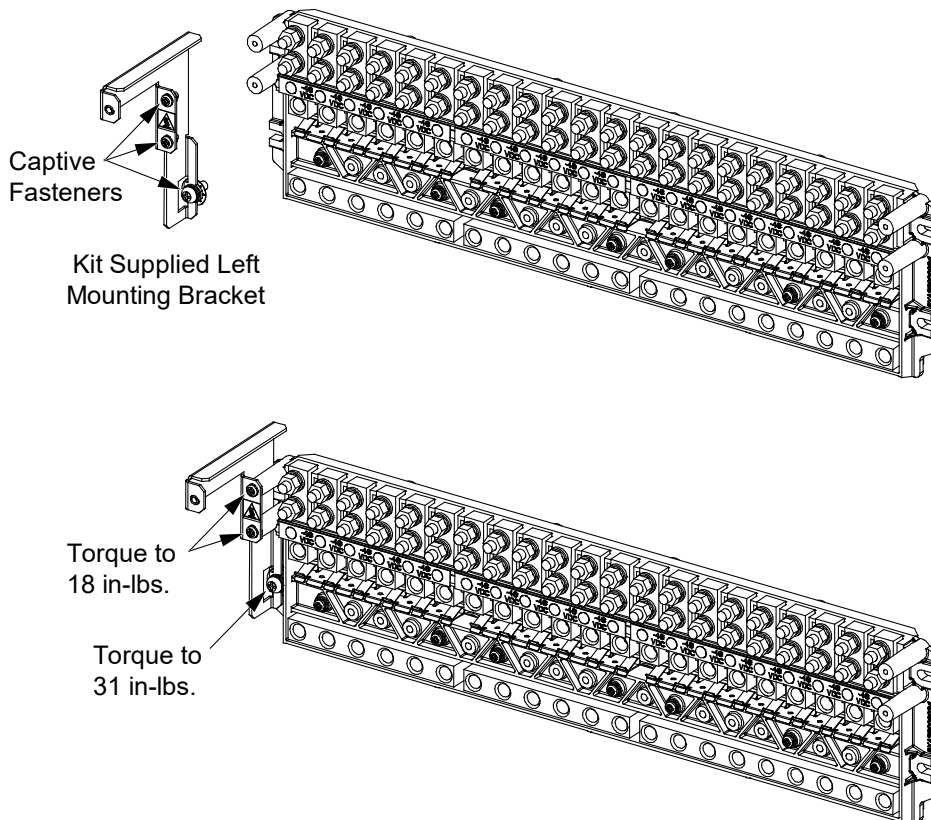
- [] 5. Remove the bottom two (2) screws (one per side) that secure the distribution panel to the cabinet. These will not be reused. See **Figure 2**.

Figure 2: Remove Screws from Distribution Panel



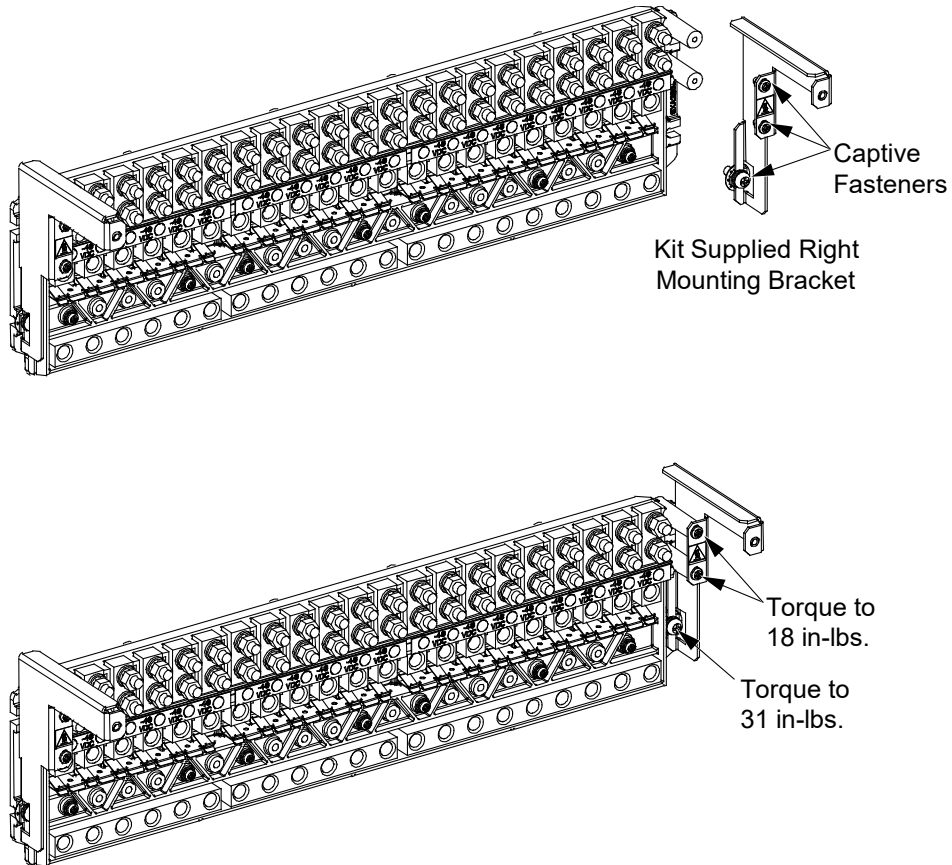
- [] 6. Orient the kit supplied left side mounting bracket as shown in **Figure 3**. Note that the bracket comes preassembled with captive fasteners (3-places). Secure the left side mounting bracket by tightening the captive fasteners. Torque **all** captive fasteners as indicated in **Figure 3** (3-places).

Figure 3: Install Left Side Mounting Bracket



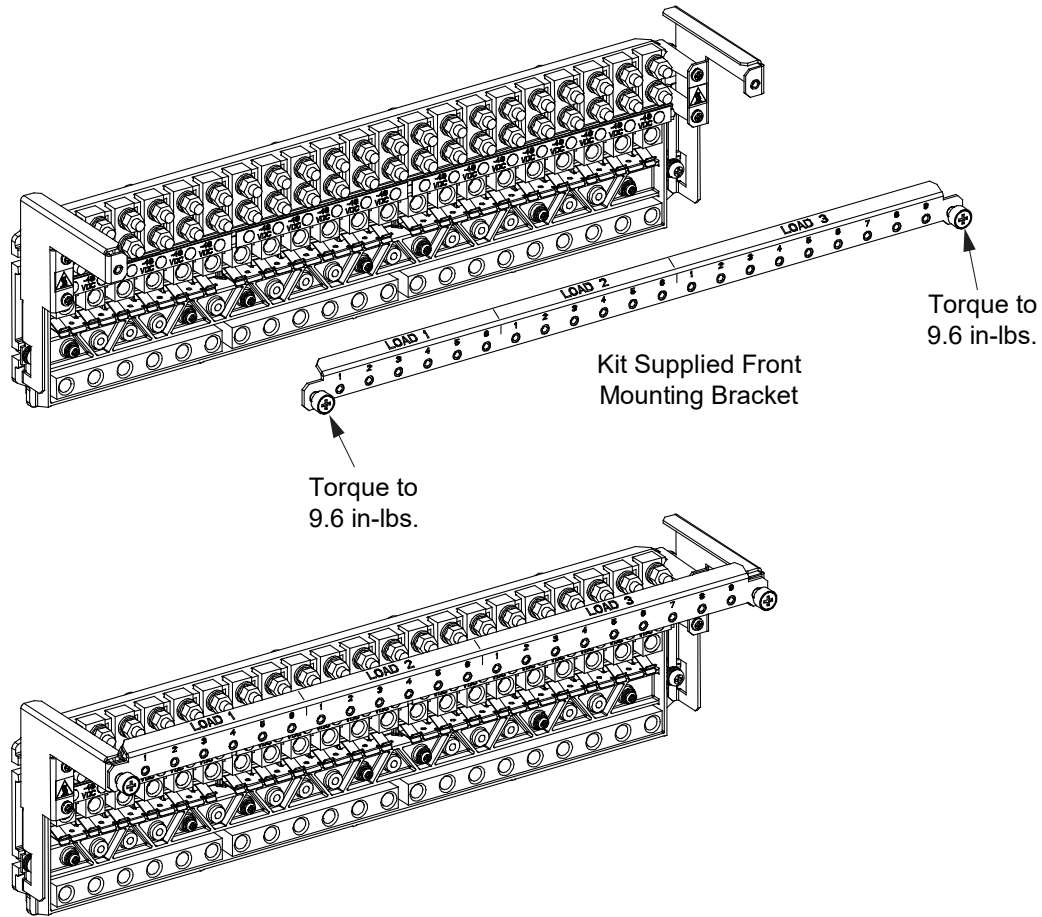
- [] 7. Orient the kit supplied right side mounting bracket as shown in **Figure 4**. Note that the bracket comes preassembled with captive fasteners (3-places). Secure the right side mounting bracket by tightening the captive fasteners. Torque **all** captive fasteners as indicated in **Figure 4** (3-places).

Figure 4: Install Right Side Mounting Bracket



- [] 8. Orient the kit supplied front mounting bracket as shown in **Figure 5**. Note that the bracket comes preassembled with captive fasteners. Secure the front bracket to the left and right brackets by tightening the captive fasteners. Torque hardware as indicated in **Figure 5**.


Figure 5: Install Front Mounting Bracket



- [] 9. Remove the kit supplied distribution position label (see **Figure 6**) from the kit supplied storage pouch and (using the plastic shield removed from the distribution panel as a guide) record the distribution positions onto the kit supplied label.
- [] 10. Place the kit supplied distribution position label (see **Figure 6**) back into the kit supplied storage pouch or remove the backing from the label and adhere it to a suitable surface near the power system. If the kit supplied distribution position label is placed back into the storage pouch, remove the backing from the hook-and-loop fastener factory attached to the storage pouch and adhere the storage pouch to a suitable surface near the power system.

Figure 6: Distribution Position Label

Distribution Position Label

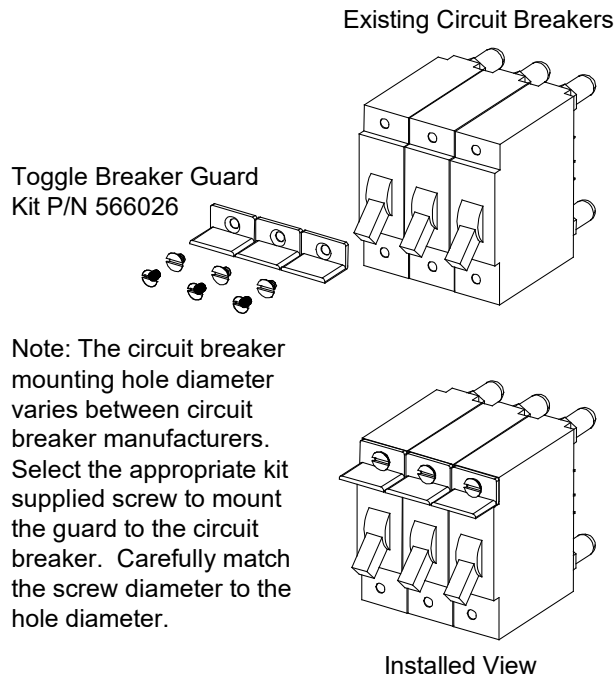

 VERTIV™

ROW 2 ROW 4
 ROW 1 ROW 3

POS.	DETAIL	POS.	DETAIL
1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

- [] 11. Install the toggle breaker guard kit (P/N 566026) as required per site requirements. See **Figure 7**.

Figure 7: Toggle Breaker Guard Kit (P/N 566026)



- [] 12. Continue with the “Installing the Power Extend Converter into a Distribution Position” procedure starting on page 8.

2 Installing the Power Extend Converter into a Distribution Position

2.1 Important Safety Instructions



DANGER! Adhere to the “Important Safety Instructions” starting on page v and those listed in the power system manual.



ALERT! Only install the power extend converter into a -48 VDC distribution position. Non-repairable damage will occur if the power extend converter is plugged into a +24 VDC distribution position.



NOTE! The power extend converter can be inserted or removed with power applied (hot swappable) as long as the power extend converter is inserted/removed with the enable/disable switch in the disabled position (see **Figure 10** on page 13).



WARNING! The power extend converter and front mounting bracket become very hot during power extend converter operation at heavy load. Wear heat resistant gloves or allow the power extend converter to cool down before removing.

2.2 Restrictions

Refer to the power extend converter instruction manual (UM565050) for wire sizing restrictions.

Refer to **Table 4** for spacing and power restrictions. This table shows how many converters can be placed side by side before skipping a single space at certain average power levels and in specific distribution row positions. These power levels pertain to the average output power (busy hour average power) drawn by the load including any power loss in the cable. The peak power available from each unit remains at 1000 watts regardless of spacing or location. Use the calculator tool that can be obtained at <https://www.vertiv.com/en-us/products-catalog/critical-power/dc-power-systems/esure-power-extend-converter-c4858-1000/#/downloads> to determine the necessity, quantity and spacing requirement of the Power Extend Converter based on the RRU type (or peak load), use application (host power system), trunk and jumper cable size and length, minimum source voltage and minimum RRU operating voltage.

Table 4: Spacing and Power Restrictions: Spec. No. 582137100 List 102, 104, 106 Operating in a 40°C Ambient

Distribution Row	Watts Per Power Extend Converter				
	No Spaces	1 Pole / Space	2 Pole / Space	3 Pole / Space	4 Pole / Space
Row 1 Only	425 W	925 W	675 W	525 W	425 W

2.3 Preparing the Distribution Cabinet

Procedure

- [] 1. If the power extend converter is to be installed for a newly connected load, connect the load and load return cables for the distribution position to be occupied by the power extend converter. At the same time, connect the power extend converter return wire faston tab (P/N 565990) provided with the power extend converter to the cabinet's return busbar (use the same location as the return lead to the load). At the same time (if required), connect the separately ordered power extend converter paralleling busbar (P/N 60016097 for paralleling two converters, P/N 545346 for paralleling three converters) to the distribution panel load busbars (use the same location as the load lead to the load). See **Figure 8**. Torque as indicated in **Figure 8**.
- [] 2. If the power extend converter is to replace an existing circuit breaker, remove the circuit breaker and verify the load and return cables for the position are wired and labeled correctly. At the same time, connect the power extend converter return wire faston tab (P/N 565990) provided with the power extend converter to the cabinet's return busbar (use the same location as the return lead to the load). At the same time (if required), connect the separately ordered power extend converter paralleling busbar (P/N 60016097 for paralleling two converters, P/N 545346 for paralleling three converters) to the distribution panel load busbars (use the same location as the load lead to the load). See **Figure 8**. Torque as indicated **Figure 8**.

2.4 Installing the Power Extend Converter(s)



NOTE! See also "Restrictions" on page 8.

Procedure

- [] 1. Connect the return wire (P/N 564330) provided with the power extend converter to a power extend converter return wire faston tab (P/N 565990) installed on the cabinet's return bar in a previous step. See **Figure 9**. Repeat for each power extend converter to be installed.
- [] 2. Route the return wire (P/N 564330) connected above under the kit installed front mounting bracket. See **Figure 9**. Repeat for each power extend converter to be installed.

Figure 8: Connecting Power Extend Converter Load Return Cables to the Return Bar with the **Power Extend Converter Return Wire Faston Tab (P/N 565990)** and Connecting Power Extend Converter Load Cables to the Distribution Panel with Power Extend Converter Paralleling Busbar (P/N 60016097 or 545346) (if required) **(cont'd on next page)**

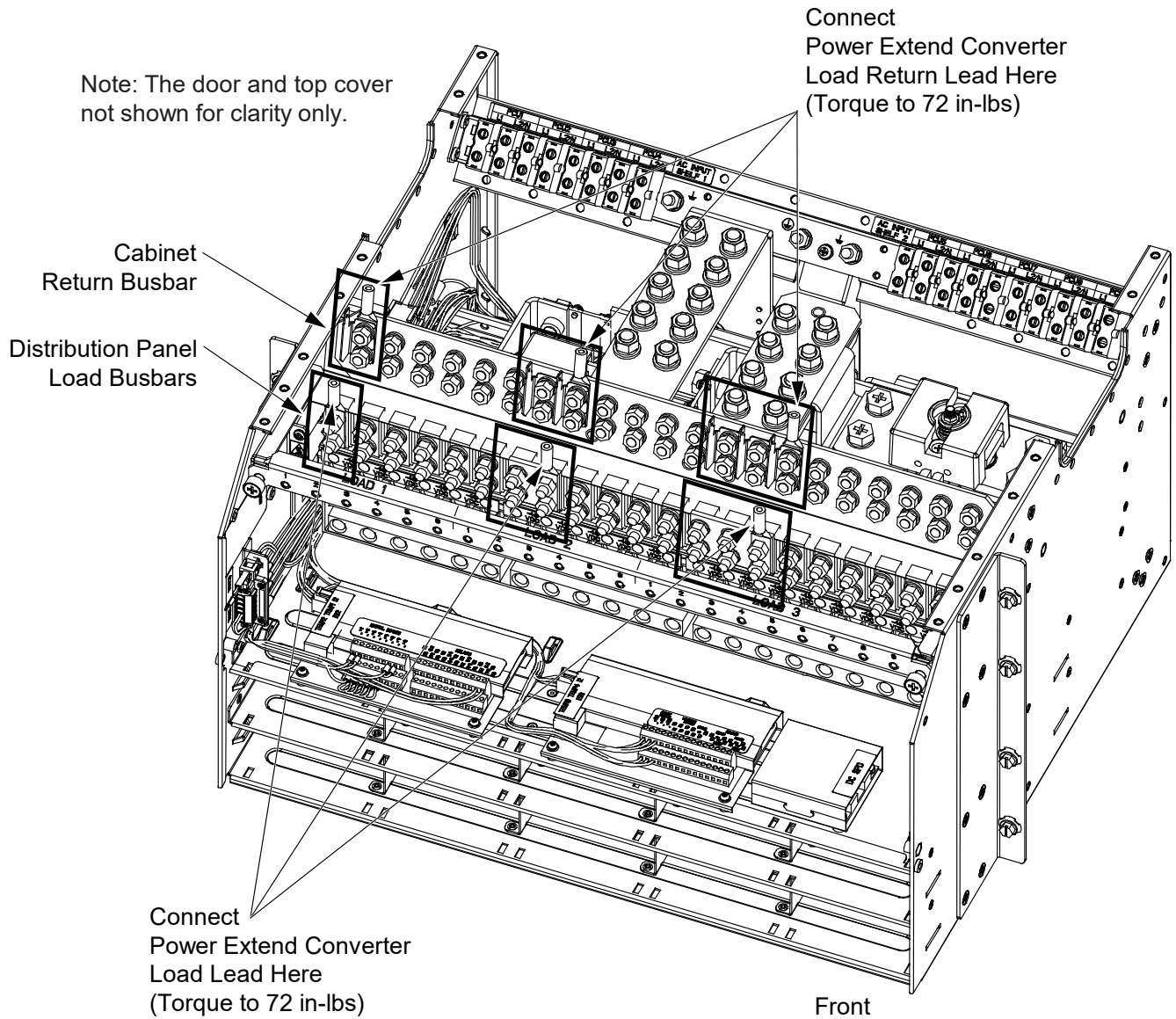
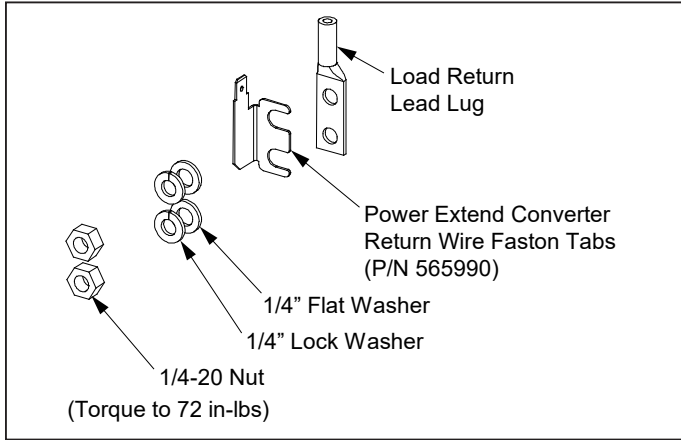
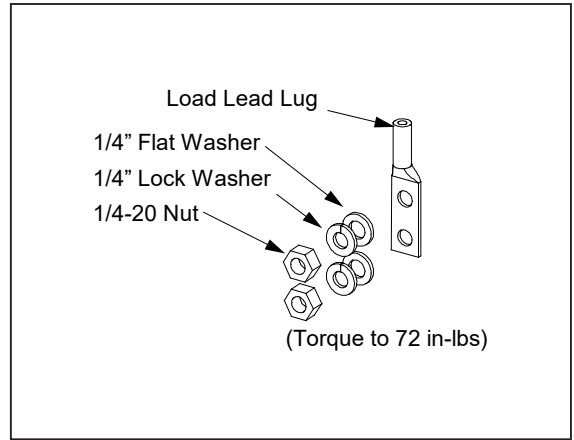


Figure 8: Connecting Power Extend Converter Load Return Cables to the Return Bar with the **Power Extend Converter Return Wire Faston Tab (P/N 565990)** and Connecting Power Extend Converter Load Cables to the Distribution Panel with Power Extend Converter Paralleling Busbar (P/N 60016097 or 545346) (if required) (cont'd from previous page)

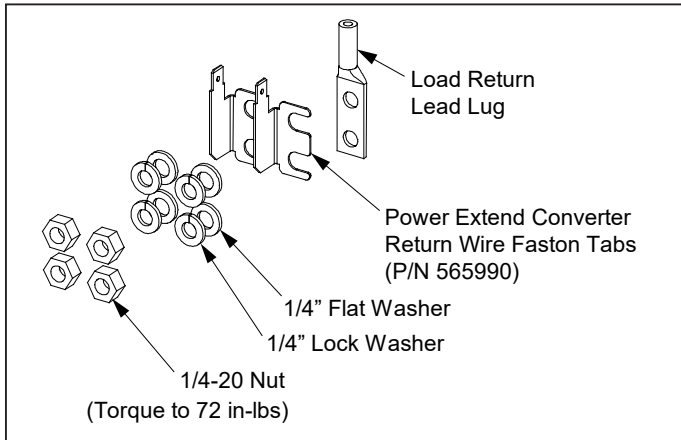
Return Busbar



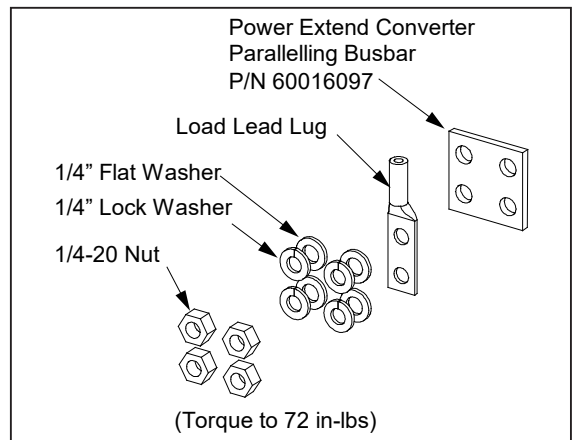
Load Busbar



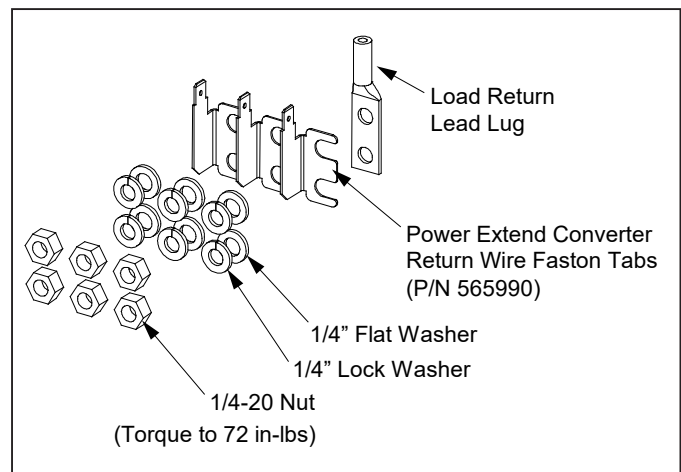
Return Busbar



Load Busbar



Return Busbar



Load Busbar

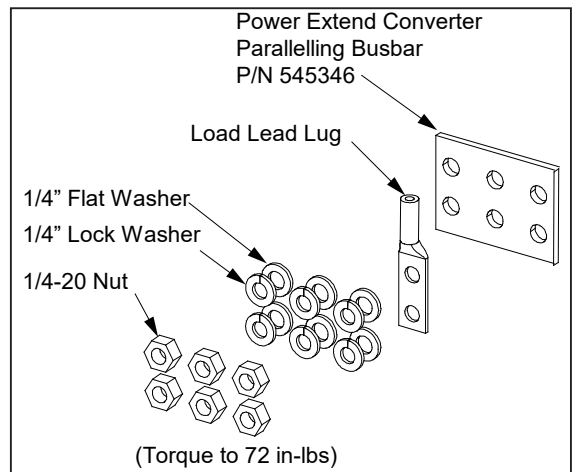
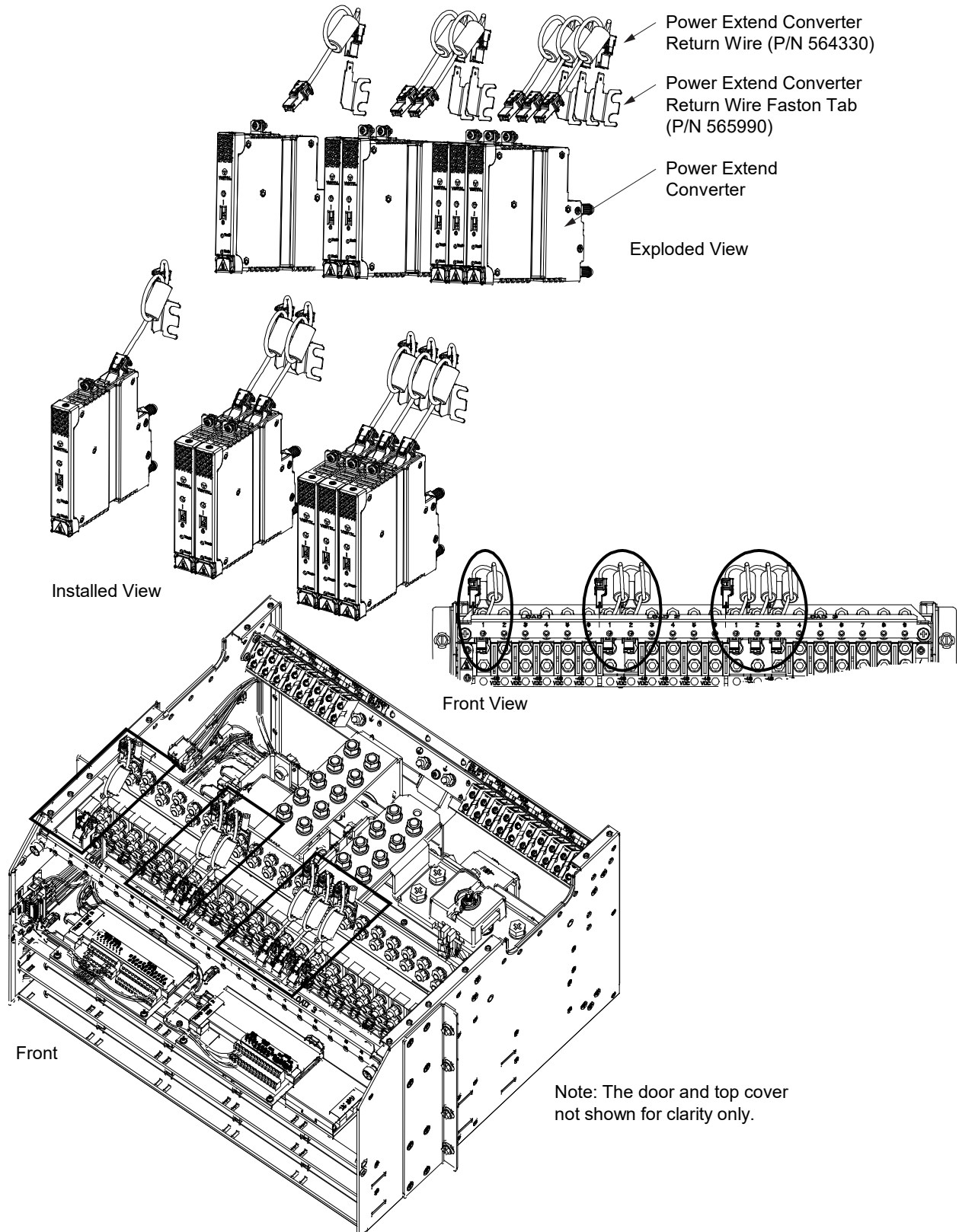
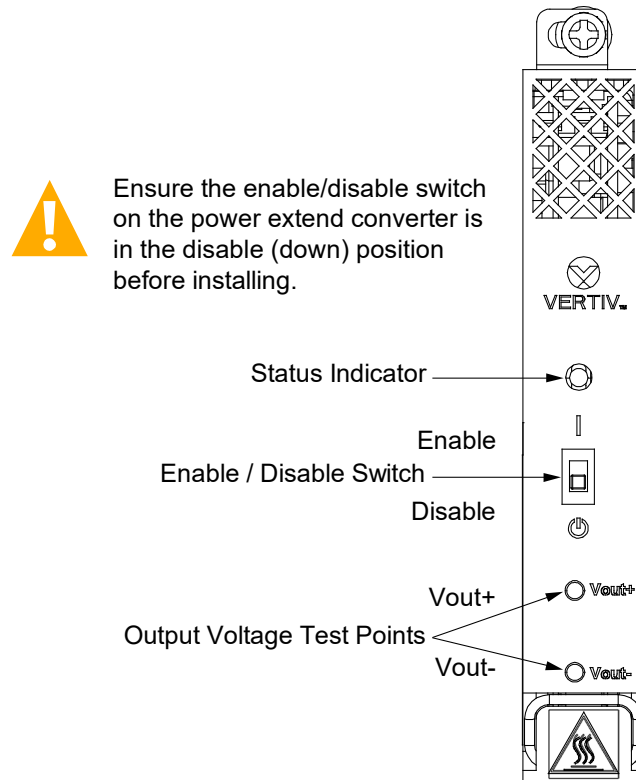


Figure 9: Connecting Power Extend Converter Return Wire(s) (P/N 564330) to a Power Extend Converter Return Wire Faston Tab (P/N 565990) and to a Power Extend Converter



- [] 3. **Ensure the enable/disable switch on the power extend converter is in the disable (down) position. See Figure 10.** Repeat for each power extend converter to be installed.

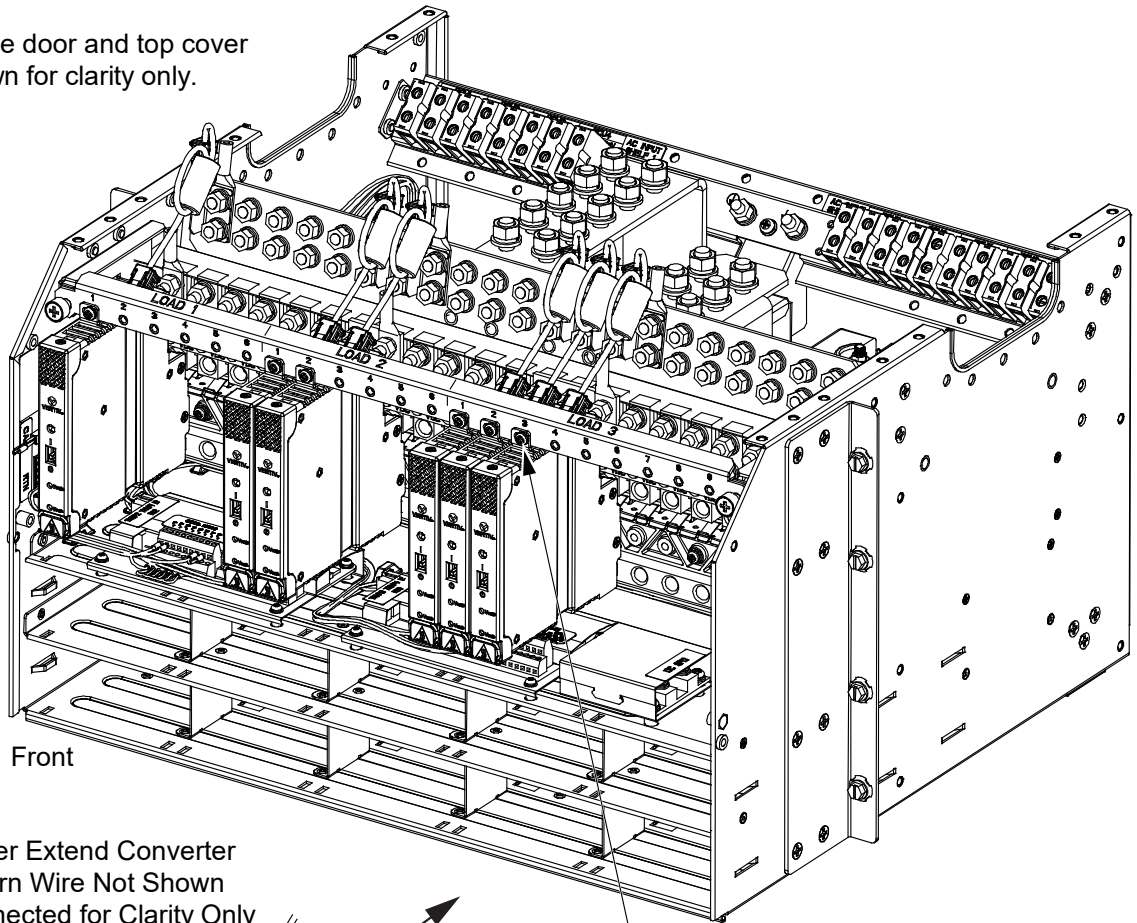
Figure 10: Enable/Disable Switch



- [] 4. Connect the return wire (P/N 564-330) to a power extend converter. Plug the power extend converter into the distribution panel. Note: Orient the white square on the return wire faston receptacle's locking tab as shown in **Figure 11**. Secure the power extend converter to the mounting bracket with the screw provided with the power extend converter. See **Figure 11**. Torque as indicated in **Figure 11**. Repeat for each power extend converter to be installed.
- [] 5. Place the enable/disable switch on the power extend converter to the enable position. See **Figure 10** on page 13. If two or three power extend converters are connected in parallel to a load that exceeds 1000 watts peak, they should be switched on simultaneously.
- [] 6. Observe the status of the power extend converter front panel local indicator. If operating normally, this indicator should be illuminated green. See **Figure 10** on page 13.
- [] 7. If equipped, close and secure the distribution panel front door.
- [] 8. Ensure that there are no local or remote alarms active on the power system.
- [] 9. Enable the external alarms or notify appropriate personnel that this procedure is finished.

Figure 11: Installing Power Extend Converter(s)

Note: The door and top cover not shown for clarity only.



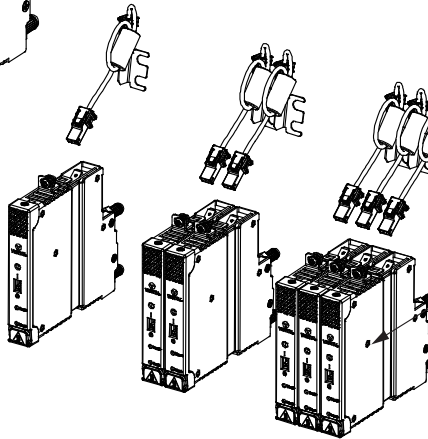
Front

Power Extend Converter
Return Wire Not Shown
Connected for Clarity Only

Orient the white square on the return wire faston receptacle's locking tab so it is visible. This allows easy access to remove the return lead if required.

Plug the C4858 Series Power Extend Converter into the distribution position.

Secure at the top with the screw supplied with the power extend converter. Torque to 9.6 in-lbs.



Power Extend Converter Return Wire (P/N 564330)

Power Extend Converter Return Wire Faston Tab (P/N 565990)

Power Extend Converter

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