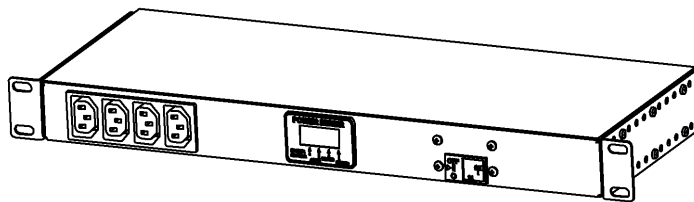




# Instruction Manual Rack Power Distribution Unit

BRE and VRTE Series



## Contents

---

<b>Specifications .....</b>	<b>3</b>
Overview .....	3
Environmental .....	3
Electrical .....	3
Receptacle Ratings .....	3
Detachable Power Supply Cords .....	4
EMC Verification .....	4
<b>Installation .....</b>	<b>5</b>
Instructions .....	5
Guidelines .....	5
<b>Mounting .....</b>	<b>6</b>
<b>Optional Local Monitoring .....</b>	<b>13</b>
Power Meter .....	13
Current Meter .....	13
<b>Service/Tech Support .....</b>	<b>14</b>
Service and Maintenance .....	14
More Technical Support .....	14
<b>Table of Figures .....</b>	<b>15</b>
<b>Revision History .....</b>	<b>16</b>

## **Specifications**

---

### **Overview**

The BRE and VRTE Series products are Power Distribution Units (PDU) intended for connection to a 20 Amp AC Mains circuit. The BRE and VRTE Series PDUs connect to AC Mains power through an IEC-320 C19 style AC Inlet. These PDUs are rated 125/250 Vac, 50/60 Hz, 16 A and can optionally be configured with single pole thermal breakers or hydraulic-magnetic circuit breakers used for supplementary over-current protection of the output receptacles<sup>1</sup>. The BRE and VRTE Series PDUs can optionally be configured with a Geist Power Meter that provides local monitoring and display of Current, Voltage, Wattage, and Power Factor.

### **Environmental**

#### **Temperature**

Operating:	10°C (50°F) min	45°C (113°F) max
Storage:	-25°C (-13°F) min	65°C (149°F) max

#### **Humidity**

Operating:	5% min	95% max	(non-condensing)
Storage:	5% min	95% max	(non-condensing)

#### **Elevation**

Operating:	0 m (0 ft) min	2000 m (6561 ft) max
Storage:	0 m (0 ft) min	15240 m (50000 ft) max

### **Electrical**

See nameplate for unit ratings.

### **Receptacle Ratings<sup>2</sup>**

IEC-320 C13	125/250 Volt, 15 Amp (per Receptacle Bank, North American Units)
IEC-320 C13	125/250 Volt, 10 Amp (per Receptacle Bank, Global Units)

---

<sup>1</sup> CAUTION: DOUBLE POLE NEUTRAL FUSING CAN BE PRESENT. When single pole thermal breakers are used, one breaker is provided in the hot conductor path and one breaker is provided in the neutral conductor path. The PDU should only be serviced by the manufacturer.

<sup>2</sup> Receptacle ratings give nameplate component voltage and current ratings. Receptacle output voltage will be equal to the voltage of the AC Mains supply used to power the PDU.

### **Detachable Power Supply Cords**

Use only detachable power supply cords of the appropriate size and type, as stated below, with the PDU. Use only with light PVC sheathed flexible cords (according to IEC 60227) or ordinary tough rubber-sheathed flexible cords (according to IEC 60245) that terminate in an attachment plug meeting local/national code requirements.

For Global units use a minimum 1.5 mm<sup>2</sup> nominal conductor cross-sectional area detachable power supply cord with ratings of 300 V and 75 °C. The power supply cord cable designation should be H03VV-F, H03VVH2-F, or better.

For North American units use a minimum 14 AWG power supply cord with ratings of 300 V and 75 °C. The power supply cord cable designation should be SJT or better.

### **EMC Verification**

This Class A device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## **Installation**

---

### **Instructions**

1. Using appropriate hardware, mount PDU to rack (see *Mounting* section for additional instructions).
2. Plug PDU into de-energized 20 Amp branch circuit receptacle<sup>3</sup>.
3. Connect devices into PDU's output receptacles. It is recommended that the devices are turned off until all devices are connected to PDU.
4. Turn on branch circuit to energize PDU.
5. Power on devices. Sequential power up is recommended to avoid high inrush current.

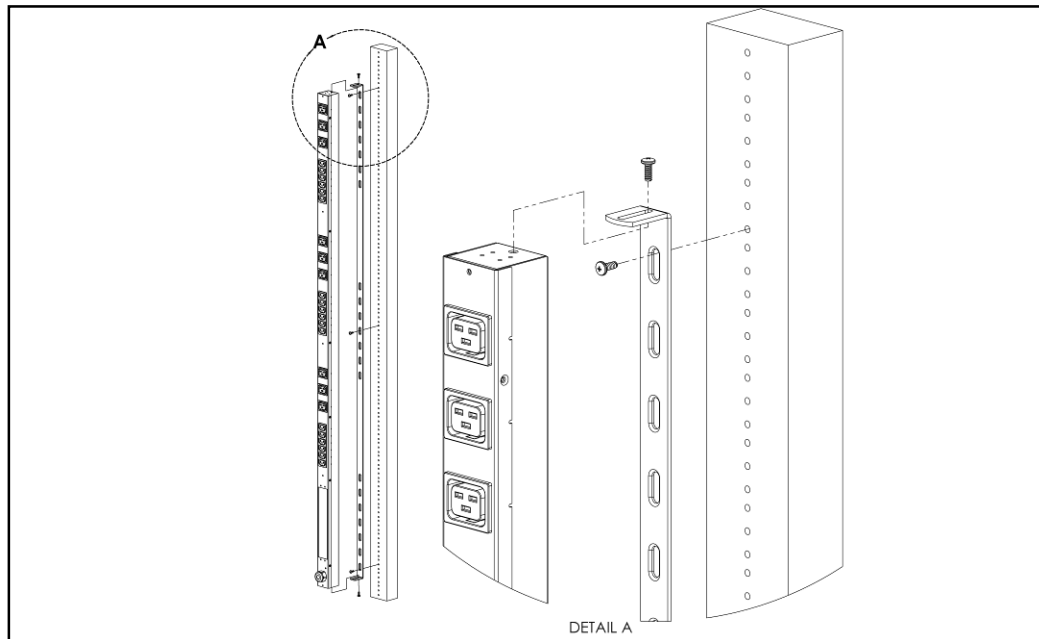
### **Guidelines**

- If the PDU is installed in a cabinet the ambient temperature of the rack should be no greater than 45°C.
- Install the PDU such that the amount of airflow required for safe operation of equipment is not compromised.
- Mount the PDU so that a hazardous condition is not achieved due to uneven mechanical loading.
- Follow nameplate ratings when connecting equipment to the branch circuit. Take into consideration the effect that overloading of the circuits might have on over-current protection and supply wiring.
- The PDU relies on the building installation for protection from over-current conditions. A certified overcurrent protection device is required in the building installation. The overcurrent protection device should be sized according to the PDU's nameplate ratings and local/national electrical codes.
- Reliable earthing of rack-mount equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit. The PDU must be connected to an earthed socket-outlet.
- The PDU is intended for Restricted Access Locations only and only qualified service personnel should install and access the PDU.
- For pluggable equipment, install the PDU so that the input plug or appliance coupler may be disconnected for service.
- Sequential power-up of devices powered by the PDU is recommended to avoid high inrush current.
- **Caution:** Disconnect all power cords before servicing.
- The PDU is intended for use with TN, TT, or IT power supply systems

---

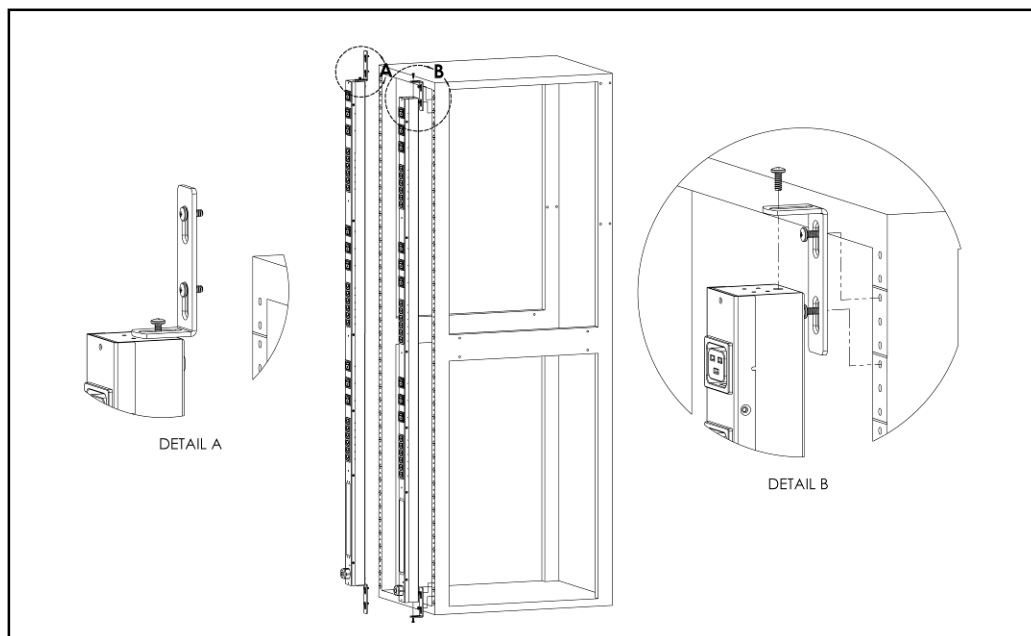
<sup>3</sup> Branch Circuit should be sized based on the PDU's nameplate electrical rating. Global Units should be powered by a 16 Amp circuit.

## Mounting



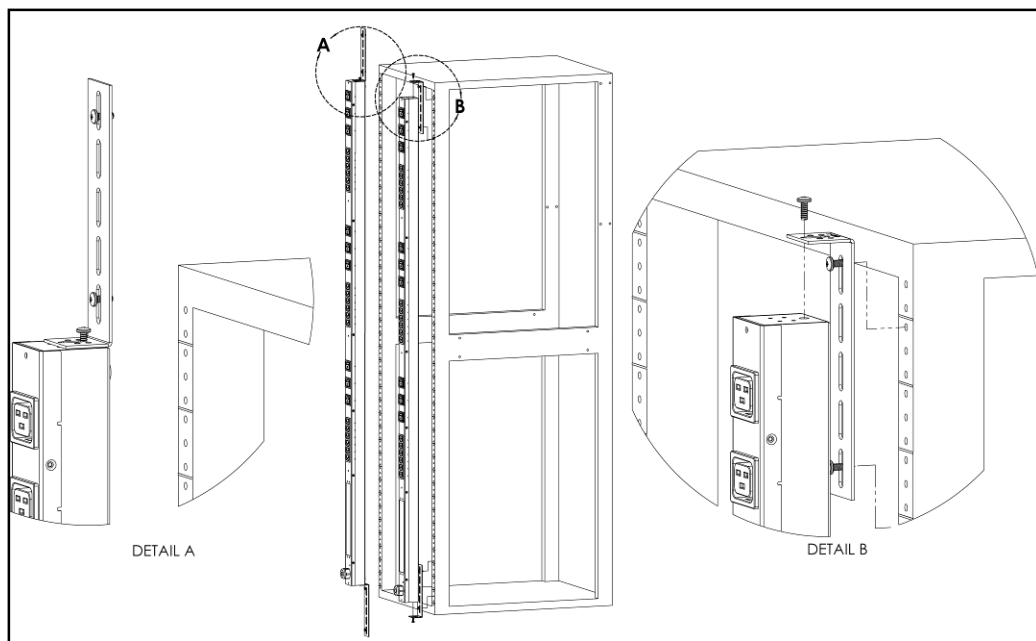
### Full Length Bracket

Using the full length bracket, mount PDU to rack as shown



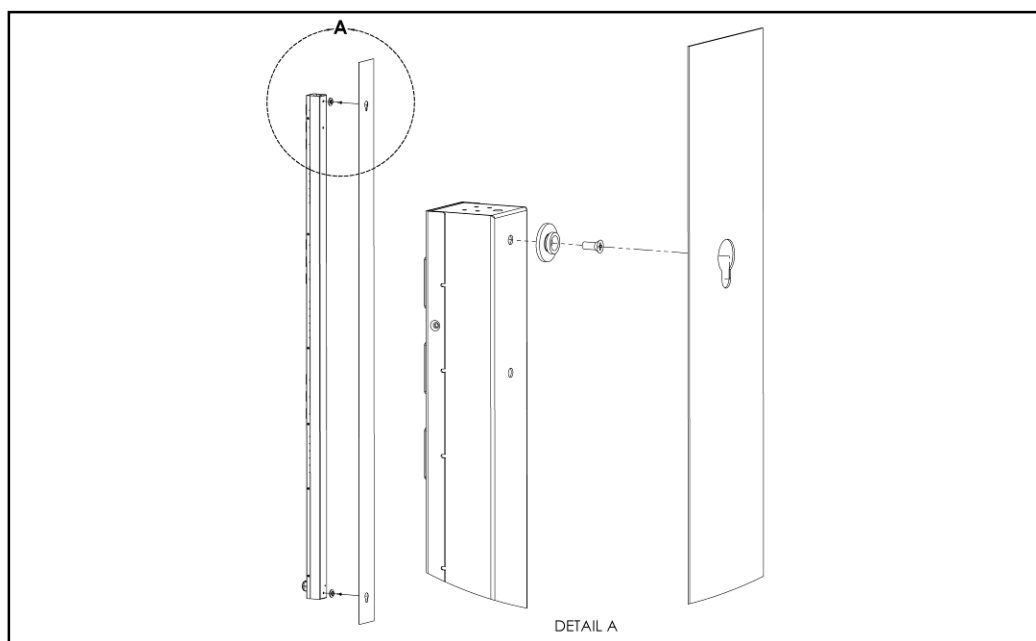
### Mini "L" Brackets (SLB-4)

Using the mini "L" brackets, attach PDU to rack as shown



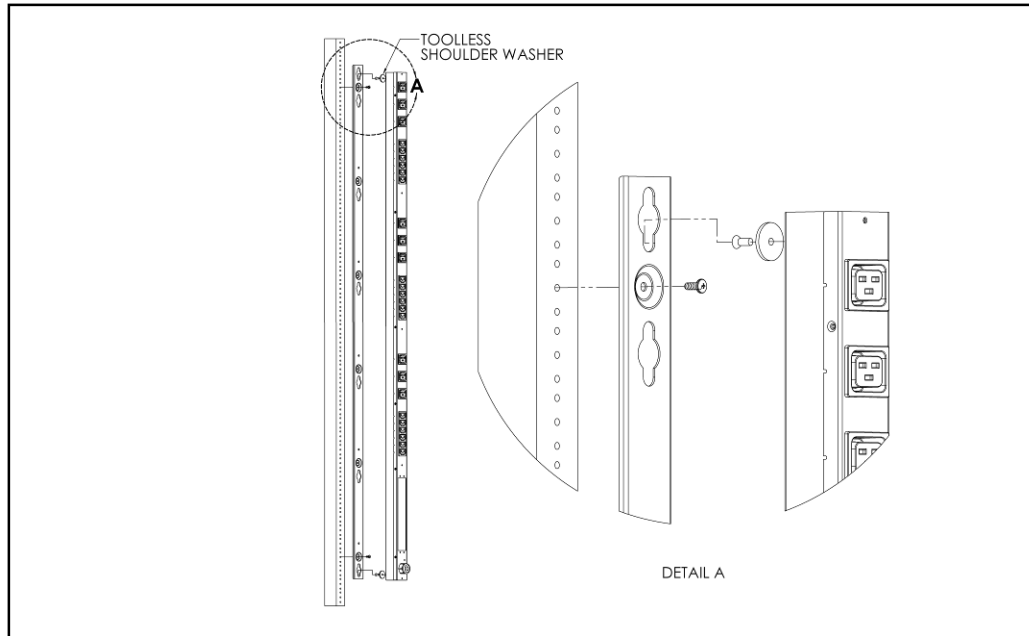
### Vertical Extension Brackets (VCB-1)

Using the vertical extension brackets, attach PDU to rack as shown



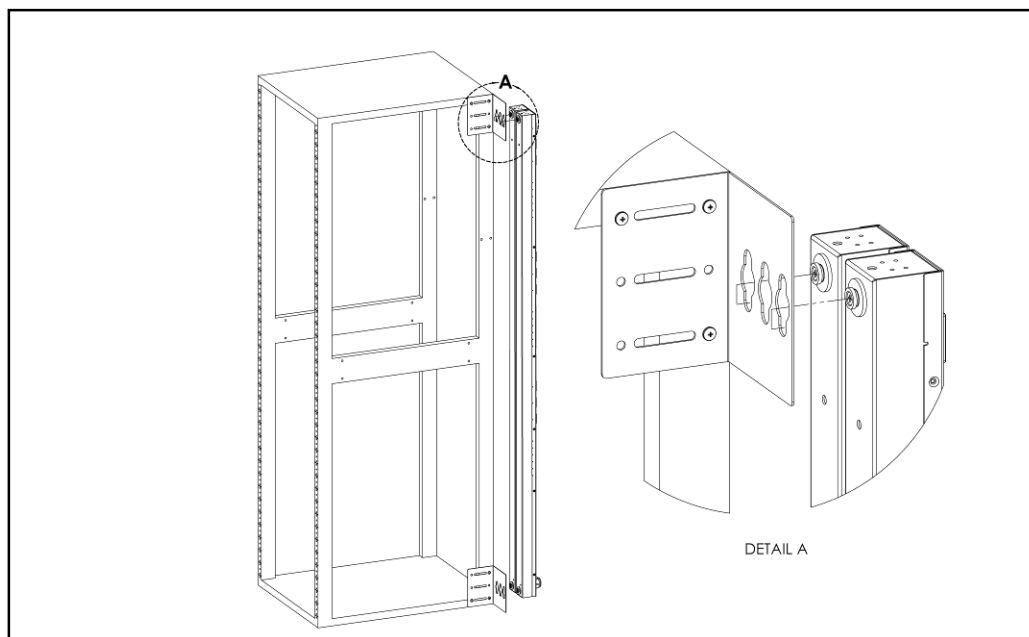
### Toolless Mounting Hardware (11621)

Secure toolless mounting buttons to PDU as shown. Use toolless buttons with key-holed slots built into cabinet or with optional Geist key-holed brackets.



### **Toolless Full Length Bracket (TLFL)**

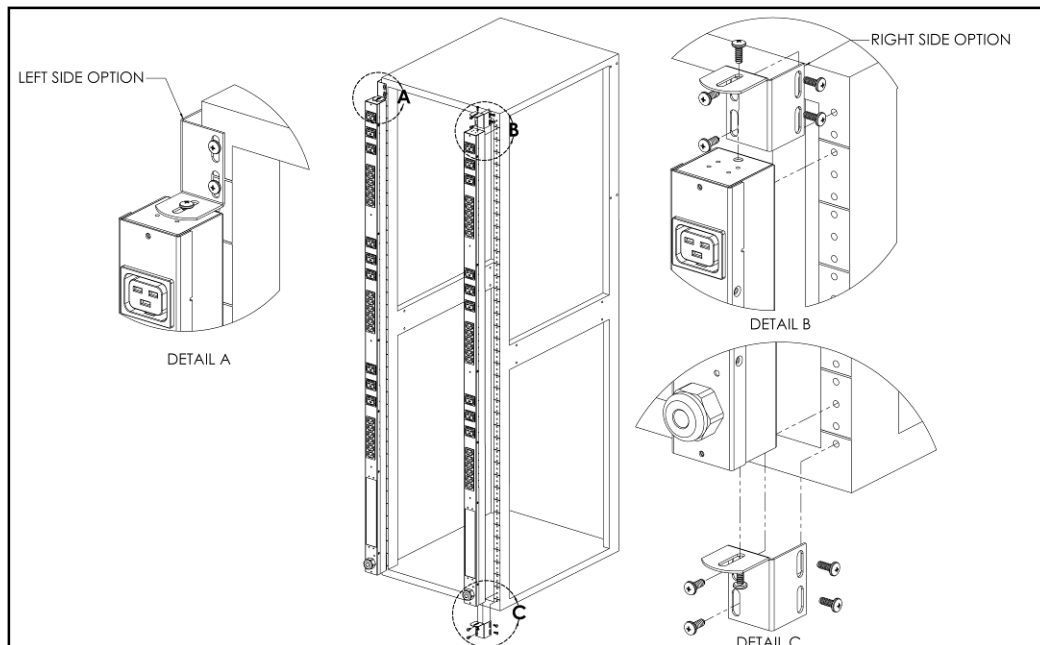
Using full length toolless bracket and toolless mounting buttons, attach PDU to rack as shown



### **Single Side Mount 2 Unit Brackets (TSMX2)**

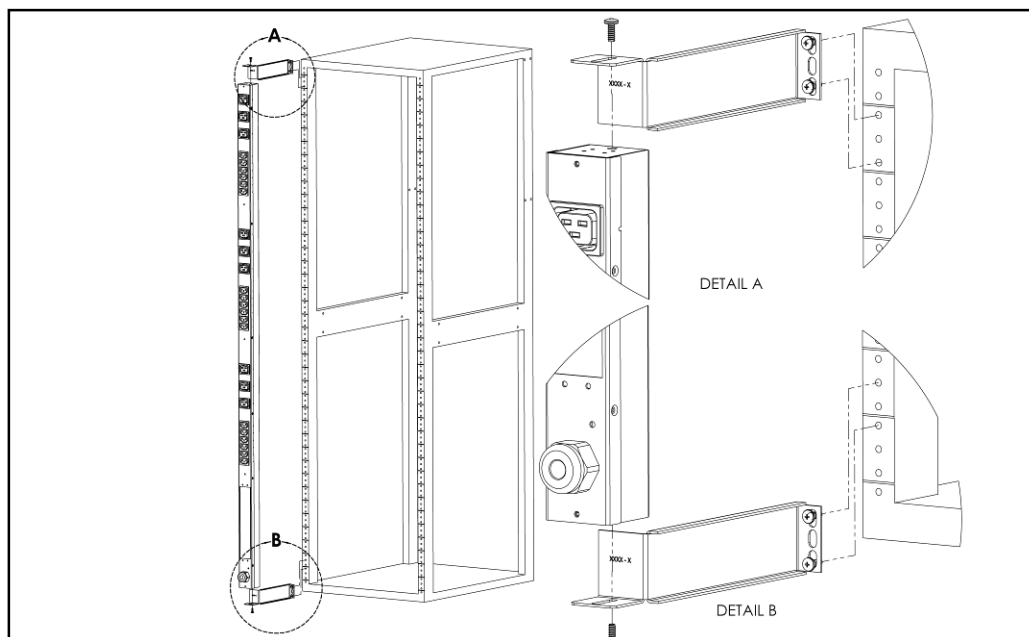
Using single side mount 2 unit brackets and toolless mounting buttons, attach PDU to rack as shown





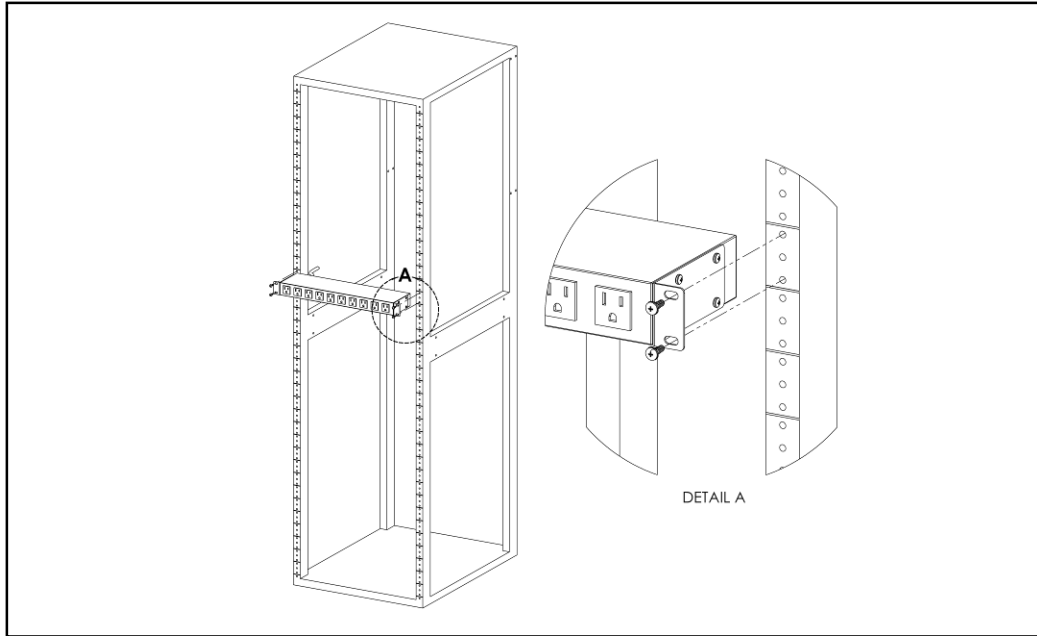
### Offset/Side Mount Brackets (EZB-1)

Using the offset/side mount brackets, attach PDU to rack as shown.



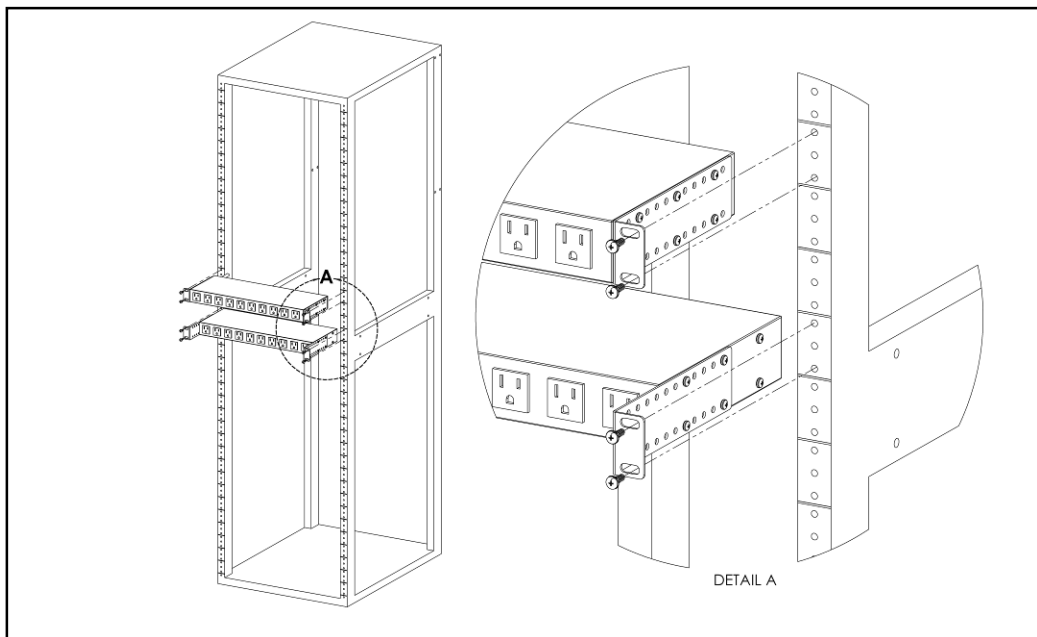
### 7" Extension Brackets (XB-7)

Using the 7" extension brackets, attach PDU to rack as shown



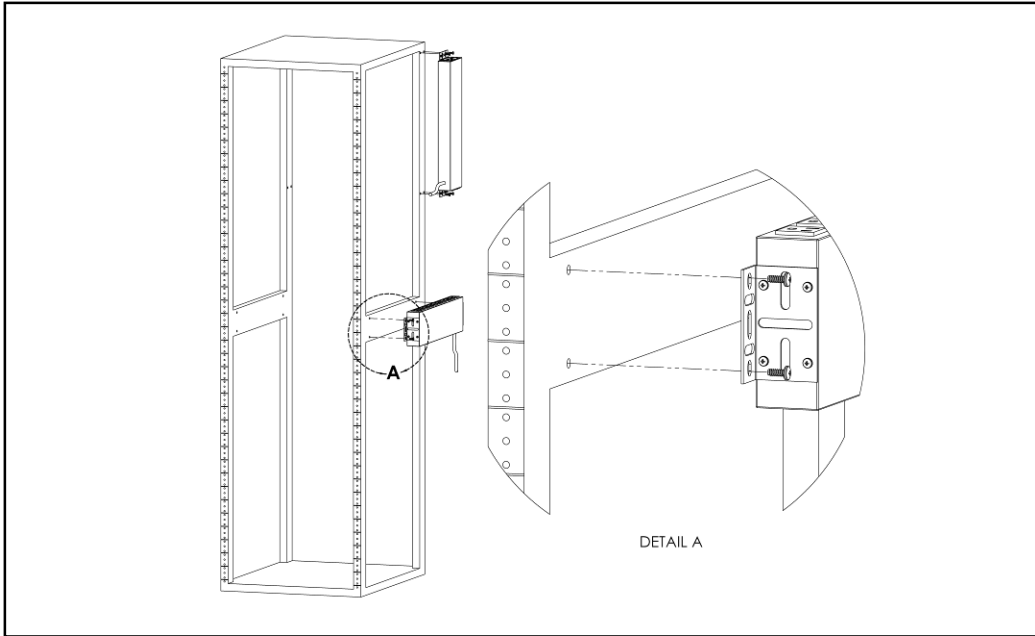
### **Flush Mount Brackets (FM)**

Using flush mount brackets, attach PDU to rack as shown



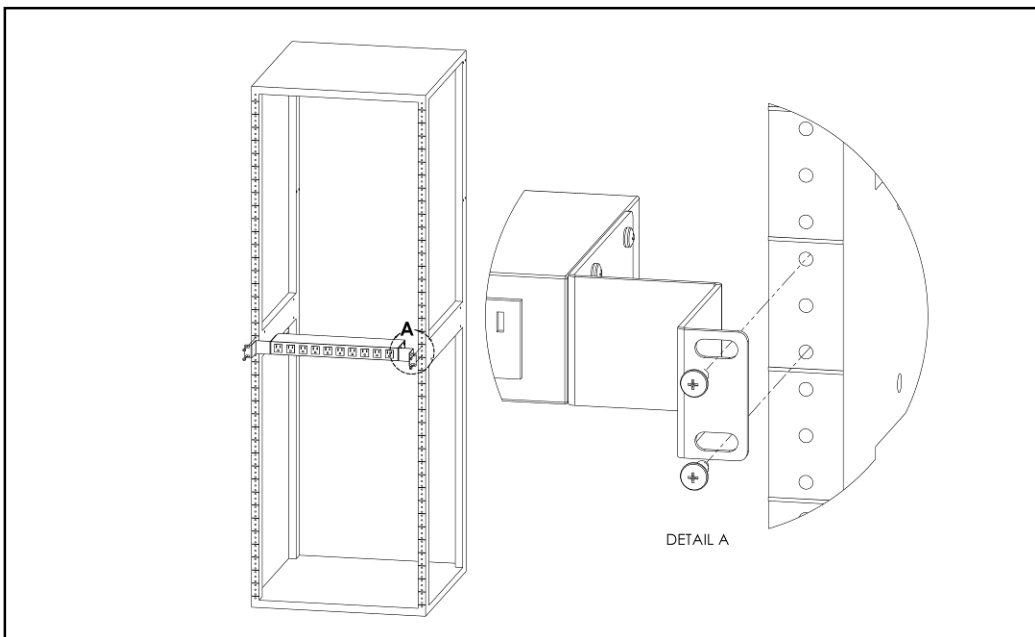
### **Adjustable Mount Brackets (AM)**

Using adjustable mount brackets, attach PDU to rack as shown



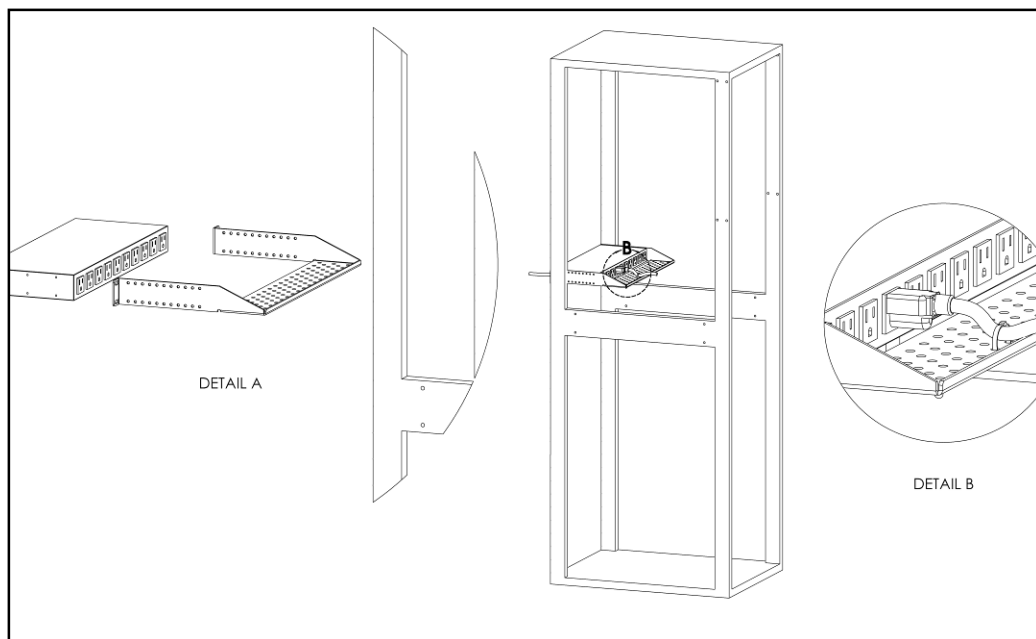
### **Panel Mount Brackets (PM)**

Using panel mount brackets, attach PDU to rack as shown



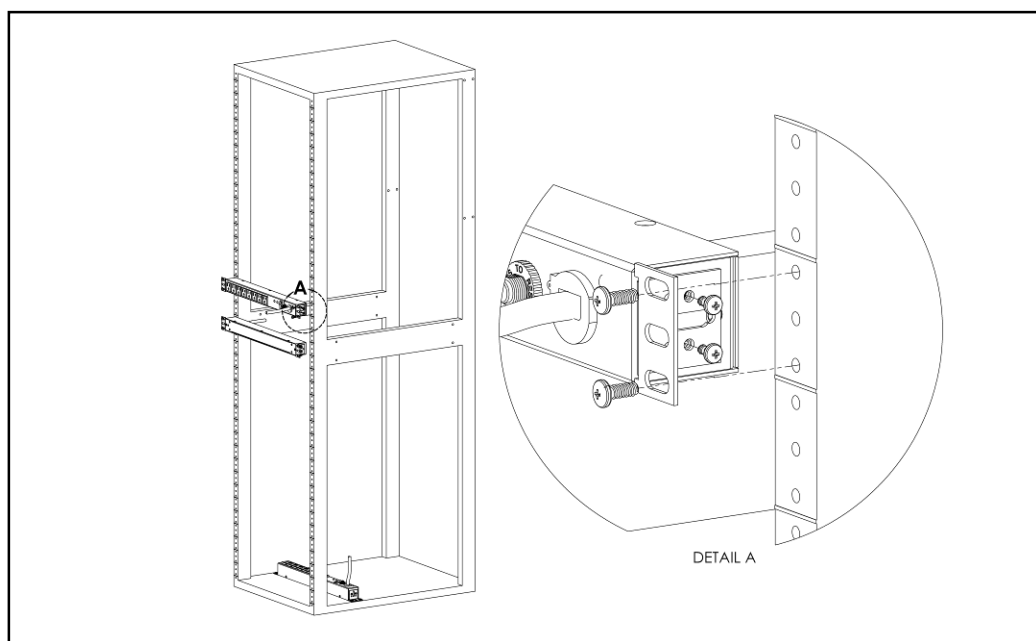
### **23" Conversion Mounting Brackets (23-RM)**

Using conversion mounting brackets, attach 19" PDU to 23" rack as shown



### **Cable Mount Bracket (CMB-1)**

Attach cable mount bracket to PDU as shown; use tie-wraps to secure cords to bracket



### **19" Horizontal/Panel Mount Brackets (7938)**

Using the 19" horizontal/panel mount brackets, attach PDU to rack as shown

## Optional Local Monitoring

---

### **Power Meter**

The Geist PM-1 power meter is a low-power, high accuracy meter capable of measuring true RMS Current, Voltage, Power, and Power Factor. These values are individually shown on an easy to read, 4-digit LED Display, which continuously scrolls through the four different measured values. Each one of these displayed parameters is defined below. The Power Meter will automatically begin cycling through the displayed values when the PDU is connected to AC Mains power.

- Current: PDU output current draw measured in true RMS Amps
- Voltage: PDU output voltage measured in true RMS Voltage
- Power: PDU output power measured in Watts – referred to as real or active power
- Power Factor: Ratio of real PDU output power to apparent PDU output power<sup>4</sup>



**Power Meter Display**

### **Current Meter**

The Geist CM-1 current meter is a low-power, high accuracy meter capable of measuring true RMS Current. The value of current is continuously shown on an easy to read, 4-digit LED Display. The Current Meter will automatically begin to display value of output current when the PDU is connected to AC Mains power.



**Current Meter Display**

---

<sup>4</sup> Real power is the power in a circuit that is transformed from electric to non-electric energy, while apparent power is the total power supplied to the circuit.

## **Service/Tech Support**

---

### **Service and Maintenance**

No service or maintenance is required. Do not attempt to open the PDU or you may void the warranty. No serviceable parts inside. It is recommended that power be removed from the unit before installing or removing any equipment.

### **More Technical Support**

<http://www.geistglobal.com>

(800) 432-3219

Email: [support@geistglobal.com](mailto:support@geistglobal.com)

Or contact your distributor.

## Table of Figures

---

Full Length Bracket.....	6
Mini "L" Brackets (SLB-4) .....	6
Vertical Extension Brackets (VCB-1) .....	7
Toolless Mounting Hardware (11621).....	7
Toolless Full Length Bracket (TLFL).....	8
Single Side Mount 2 Unit Brackets (TSMX2) .....	8
Offset/Side Mount Brackets (EZB-1).....	9
7" Extension Brackets (XB-7).....	9
Flush Mount Brackets (FM) .....	10
Adjustable Mount Brackets (AM).....	10
Panel Mount Brackets (PM) .....	11
23" Conversion Mounting Brackets (23-RM) .....	11
Cable Mount Bracket (CMB-1) .....	12
19" Horizontal/Panel Mount Brackets (7938) .....	12
Power Meter Display .....	13
Current Meter Display .....	13

## Revision History

---

Revision	Date	Notes	Approved By
1.0	4/23/2009	Original Published Version	BP
2.0	7/28/2014	Changed logo, web address, and email	QTN