



Powerware

**Powerware® 9125 Two-in-One
PowerPass® Distribution Module
User's Guide**

For use with Powerware 9125 Two-in-One
5000/6000 VA UPS Models

Class A EMC Statements

FCC Part 15

NOTE This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

ICES-003

This Class A Interference Causing Equipment meets all requirements of the Canadian Interference Causing Equipment Regulations ICES-003.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

EN 50091-2

Some configurations are classified under EN 50091-2 as "Class-A UPS for Unrestricted Sales Distribution." For these configurations, the following applies:

WARNING This is a Class A-UPS Product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take additional measures.

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Greenlee is a registered trademark of Greenlee Textron.

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Requesting a Declaration of Conformity

Units that are labeled with a CE mark comply with the following harmonized standards and EU directives:

- Harmonized Standards: EN 50091-1-1 and EN 50091-2; IEC 60950 Third Edition
- EU Directives: 73/23/EEC, Council Directive on equipment designed for use within certain voltage limits
93/68/EEC, Amending Directive 73/23/EEC
89/336/EEC, Council Directive relating to electromagnetic compatibility
92/31/EEC, Amending Directive 89/336/EEC relating to EMC

The EC Declaration of Conformity is available upon request for products with a CE mark. For copies of the EC Declaration of Conformity, contact:

Eaton Power Quality Oy
Koskelontie 13
FIN-02920 Espoo
Finland
Phone: +358-9-452 661
Fax: +358-9-452 665 68

Special Symbols

The following are examples of symbols used on the UPS or accessories to alert you to important information:



RISK OF ELECTRIC SHOCK - Indicates that a risk of electric shock is present and the associated warning should be observed.



CAUTION: REFER TO OPERATOR'S MANUAL - Refer to your operator's manual for additional information, such as important operating and maintenance instructions.



This symbol indicates that you should not discard the UPS or the UPS batteries in the trash. This product contains sealed, lead-acid batteries and must be disposed of properly. For more information, contact your local recycling/reuse or hazardous waste center.



This symbol indicates that you should not discard waste electrical or electronic equipment (WEEE) in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.

Table of Contents

1	Introduction	1
	Safety Warnings	1
2	Installation	13
	Inspecting the Equipment	13
	UPS Setup	13
	UPS Shutdown	14
	Installing the UPS Internal Batteries	14
	Tower Setup	16
	EBM Installation	18
	Hardwired PDM Installation	19
	Remote Emergency Power-off Installation	26
	Plug-Receptacle PDM Installation	28
	Plug-Receptacle PDM Rear Panels	32
3	Configuration	35
4	Operation	37
	Using Maintenance Bypass	37
5	Specifications	39
6	PDM Schematics	41
7	Service and Support	49

Chapter 1 Introduction

The PowerPass® Distribution Module (PDM) is designed to operate with a 5000/6000 VA Powerware® 9125 uninterruptible power system (UPS). The PDM allows you to:

- Replace or upgrade the UPS without losing power to the protected equipment (see “Using Maintenance Bypass” on page 37).
- Provide surge protection if the UPS is not present.
- Provide extra surge protection when the UPS is present.

Safety Warnings

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

This manual contains important instructions that you should follow during installation and maintenance of the UPS and PDM. Please read all instructions before operating the equipment and save this manual for future reference.



DANGER

This UPS contains **LETHAL VOLTAGES**. All repairs and service should be performed by **AUTHORIZED SERVICE PERSONNEL ONLY**. There are **NO USER SERVICEABLE PARTS** inside the UPS.



CAUTION

- To reduce the risk of fire or electric shock, install this UPS in a temperature and humidity controlled, indoor environment, free of conductive contaminants. Ambient temperature must not exceed 40°C (104°F). Do not operate near water or excessive humidity (95% maximum).
- For PDM models with hardwired outputs, overcurrent protection for the output AC circuit(s) is to be provided by others.
- For PDM models with hardwired outputs, suitably rated disconnect switches for the output AC circuit(s) are to be provided by others.

Sikkerhedsanvisninger

VIGTIGE SIKKERHEDSANVISNINGER GEM DISSE ANVISNINGER

Denne manual indeholder vigtige instruktioner, som skal følges under installation og vedligeholdelse af UPS'en og PDU. Læs venligst alle instruktioner inden betjening af udstyret og gem denne manual mhp. fremtidige opslag.



FARE

Denne UPS indeholder LIVSFARLIG HØJSPÆNDING. Alle reparationer og vedligeholdelse bør kun udføres af en AUTORISERET SERVICE TEKNIKER. Ingen af UPS'ens indvendige dele kan repareres af brugeren.



ADVARSEL

- Installér denne UPS i et temperatur- og fugtighedskontrolleret indendørsmiljø, frit for ledende forureningsstoffer for at formindske risikoen for brand og elektrisk stød. Rumtemperaturen må ikke overstige 40°C. UPS'en bør ikke betjenes nær vand eller høj fugtighed (maksimalt 95%).
- For PDM systemer med hårdledningsudgange, skal overstrømsbeskyttelse for vekslestrømmens udgangskredsløb forsynes af andre.
- For PDM systemer med hårdledningsudgange, skal egnede, nominelle afbryderkontakter for vekslestrømmens udgangskredsløb forsynes af andre.

Belangrijke Veiligheidsinstructies

BELANGRIJKE VEILIGHEIDSINSTRUCTIES BEWAAR DEZE INSTRUCTIES

Deze handleiding bevat belangrijke instructies die u dient te volgen tijdens de installatie en het onderhoud van de UPS en de PDU. Lees alle instructies voordat u de apparatuur in bedrijf neemt en bewaar deze handleiding als naslagwerk.



GEVAAR

Deze UPS bevat LEVENSGEVAARLIJKE ELEKTRISCHE SPANNING. Alle reparaties en onderhoud dienen UITSLUITEND DOOR ERKEND SERVICEPERSONEEL te worden uitgevoerd. Er bevinden zich GEEN ONDERDELEN in de UPS die DOOR DE GEBRUIKER kunnen worden GEREpareerd.



OPGELET

- Teneinde de kans op brand of elektrische schok te verminderen dient deze UPS in een gebouw met temperatuur- en vochtigheidsregeling te worden geïnstalleerd, waar geen geleidende verontreinigingen aanwezig zijn. De omgevingstemperatuur mag 40°C niet overschrijden. Niet gebruiken in de buurt van water of bij zeer hoge vochtigheid (max. 95%).
- Voor PDM systemen met vast-bedrade uitgangen, moet de overstroombeveiliging voor wisselstroom uitvoercircuit(s) door anderen worden geleverd.
- Voor PDM systemen met vast-bedrade uitgangen, moeten de juiste hoofdschakelaars voor wisselstroom uitvoercircuit(s) door anderen worden geleverd.

Tarkeita Turvaohjeita

TÄRKEITÄ TURVAOHJEITA - SUOMI SÄILYTÄ NÄMÄ OHJEET

Tämä käyttöohje sisältää tärkeitä ohjeita, joita on noudatettava UPS-virtalähteen ja PDM asennuksen ja huollon yhteydessä. Lue kaikki ohjeet ennen laitteiston käyttöä ja säilytä ohje myöhempiä tarvetta varten.



VAARA

Tämä UPS sisältää HENGENVAARALLISIA JÄNNITTEITÄ. Kaikki korjaukset ja huollot on jätettävä VAIN VALTUUTETUN HUOLTOHENKILÖN TOIMEKSI. UPS ei sisällä MITÄÄN KÄYTTÄJÄN HUOLLETTAVIA OSIA.



VARO

- Vähentääksesi tulipalon ja sähköiskun vaaraa asenna tämä UPS sisätiloihin, joissa lämpötila ja kosteus on säädettävissä ja joissa ei ole virtaa johtavia epäpuhtauksia. Ympäristön lämpötila ei saa ylittää 40 °C. Älä käytä lähellä vettä ja vältä kosteita tiloja (95 % maksimi).
- PDM-järjestelmissä kiintealla asennuksella: kuormana olevien laitteiden ylivirtasuojaus ja erotuskytkimet tulee toteuttaa kuormapiireissa.

Consignes de sécurité

CONSIGNES DE SÉCURITÉ IMPORTANTES CONSERVER CES INSTRUCTIONS

Ce manuel comporte des instructions importantes que vous êtes invité à suivre lors de toute procédure d'installation et de maintenance de PDM et de l'onduleur. Veuillez consulter entièrement ces instructions avant de faire fonctionner l'équipement et conserver ce manuel afin de pouvoir vous y reporter ultérieurement.



DANGER!

Cet onduleur contient des TENSIONS MORTELLES. Toute opération d'entretien et de réparation doit être EXCLUSIVEMENT CONFIEE A UN PERSONNEL QUALIFIE AGRÉÉ. AUCUNE PIÈCE RÉPARABLE PAR L'UTILISATEUR ne se trouve dans l'onduleur.



ATTENTION!

- Pour réduire les risques d'incendie et de décharge électrique, installer l'onduleur uniquement à l'intérieur, dans un lieu dépourvu de matériaux conducteurs, où la température et l'humidité ambiantes sont contrôlées. La température ambiante ne doit pas dépasser 40 °C. Ne pas utiliser à proximité d'eau ou dans une atmosphère excessivement humide (95 % maximum).
- Pour les modèles PDM ayant des sorties câblées, la protection contre une surintensité pour le(s) circuit(s) de sortie de courant alternatif doit être fournie par un autre fournisseur.
- Pour les modèles PDM ayant des sorties câblées, les interrupteurs de déconnexion convenables pour le(s) circuit(s) de sortie de courant alternatif doivent être fournis par un autre fournisseur.

Sicherheitswarnungen

WICHTIGE SICHERHEITSANWEISUNGEN AUFBEWAREN

Dieses Handbuch enthält wichtige Anweisungen, die Sie während der Installation und Wartung des USV (Unterbrechungsfreies Stromversorgungssystem) und der PDM befolgen müssen. Bitte lesen Sie alle Anweisungen des Handbuches bevor sie mit dem Gerät arbeiten. Bewahren Sie das Handbuch zum Nachlesen auf.



WARNUNG

Die USV führt lebensgefährliche Spannungen. Alle Reparatur- und Wartungsarbeiten sollten nur von Kundendienstfachleuten durchgeführt werden. Die USV enthält keine vom Benutzer zu wartenden Komponenten.



VORSICHT!

- Um die Brand- oder Elektroschockgefahr zu verringern, diese USV nur in Gebäuden mit kontrollierter Temperatur und Luftfeuchtigkeit installieren, in denen keine leitenden Schmutzstoffen vorhanden sind. Die Umgebungstemperatur darf 40°C nicht übersteigen. Die USV nicht in der Nähe von Wasser oder in extrem hoher Luftfeuchtigkeit (max. 95 %) betreiben.
- Für PDM-Systeme mit festverdrahteten Eingängen muß der Überstromschutz für die Ausgangswechselstromkreise anderweitig bereitgestellt werden.
- Für PDM-Systeme mit festverdrahteten Ausgängen müssen Trennschalter für die Ausgangswechselstromkreise mit passendem Nennwert anderweitig bereitgestellt werden.

Avvisi di sicurezza

IMPORTANTI ISTRUZIONI DI SICUREZZA CONSERVARE QUESTE ISTRUZIONI

Il presente manuale contiene importanti istruzioni da seguire durante l'installazione e la manutenzione dell'UPS e dell'PDM. Leggere integralmente le istruzioni prima di utilizzare l'apparecchiatura e conservare il presente manuale per futuro riferimento.



PERICOLO

La TENSIONE contenuta in questo gruppo statico di continuità è LETALE. Tutte le operazioni di riparazione e di manutenzione devono essere effettuate ESCLUSIVAMENTE DA PERSONALE TECNICO AUTORIZZATO. All'interno del gruppo statico di continuità NON vi sono PARTI RIPARABILI DALL'UTENTE.



ATTENZIONE

- Per ridurre il rischio di incendio o di scossa elettrica, installare il gruppo statico di continuità in un ambiente interno a temperatura ed umidità controllata, privo di agenti contaminanti conduttivi. La temperatura ambiente non deve superare i 40°C. Non utilizzare l'unità in prossimità di acqua o in presenza di umidità eccessiva (95% max).
- Nei sistemi PDM provvisti di uscite cablate, i dispositivi di protezione da sovracorrente per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.
- Nei sistemi PDM provvisti di uscite cablate, i sezionatori di corrente nominale adeguata per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.

Viktig Sikkerhetsinformasjon

VIKTIGE SIKKERHETSINSTRUKSJONER GJEM DISSE INSTRUKSJONENE

Denne håndboken inneholder viktige instruksjoner som du bør overholde ved montering og vedlikehold av UPS-enheten og PDM. Les alle instruksjoner før utstyret tas i bruk, og gjem håndboken til fremtidig referanse.



FARLIG

Denne UPS'en inneholder LIVSFARLIGE SPENNINGER. All reparasjon og service må kun utføres av AUTORISERT SERVICEPERSONALE. BRUKERE KAN IKKE UTFØRE SERVICE PÅ NOEN AV DELENE i UPS'en.



FORSIKTIG

- For å redusere fare for brann eller elektriske støt, bør denne UPS'en installeres i et innendørs miljø med kontrollert temperatur og luftfuktighet som er fritt for ledende, forurensende stoffer. Romtemperaturen må ikke overskride 40°C. Den må ikke brukes i nærheten av vann eller ved meget høy luftfuktighet (95% maks.).
- For PDM systemer med fastkoplede uttak, må overstrømvern for vekselstrømmuttak(ene) stilles til rådighet av andre.
- For PDM systemer med fastkoplede uttak, må passende utkoplingsbrytere for vekselstrømmuttak(ene) stilles til rådighet av andre.

Regulamentos de Segurança

INSTRUÇÕES DE SEGURANÇA IMPORTANTES GUARDE ESTAS INSTRUÇÕES

Este manual contém instruções importantes que devem ser seguidas durante a instalação e manutenção do no-break e da PDM. Leia todas as instruções antes de operar o equipamento e guarde este manual para consultá-lo futuramente.



CUIDADO

A UPS contém VOLTAGEM MORTAL. Todos os reparos e assistência técnica devem ser executados **SOMENTE POR PESSOAL DA ASSISTÊNCIA TÉCNICA AUTORIZADO**. Não há nenhuma PEÇA QUE POSSA SER REPARADA PELO USUÁRIO dentro da UPS.



PERIGO

- Para reduzir o risco de incêndios ou choques elétricos, instale a UPS em ambiente interno com temperatura e umidade controladas e livres de contaminadores condutíveis. A temperatura ambiente não deve exceder 40°C. Não opere próximo a água ou em umidade excessiva (máx: 95%).
- Para sistemas PDM com saídas conectadas, a proteção de sobrecarga para circuitos de saída de corrente alternada deve ser fornecida por outros.
- Para sistemas PDM com saídas conectadas, interruptores de desconexão devidamente qualificados para circuitos de saída de corrente alternada devem ser fornecidos por outros.

Предупреждения по мерам безопасности

ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ СОХРАНИТЕ ЭТИ УКАЗАНИЯ

В данном руководстве содержатся важные инструкции по установке и обслуживанию источника бесперебойного питания (ИБП) и батарей. Перед работой с оборудованием прочтите все инструкции. Сохраните данное руководство для дальнейшего использования.



ОПАСНО

В данном ИБП имеются СМЕРТЕЛЬНО ОПАСНЫЕ НАПРЯЖЕНИЯ. Все работы по ремонту и обслуживанию должны выполняться ТОЛЬКО УПОЛНОМОЧЕННЫМ ОБСЛУЖИВАЮЩИМ ПЕРСОНАЛОМ. Внутри ИБП нет узлов, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.



ОСТОРОЖНО

- Для снижения опасности пожара или поражения электрическим током устанавливайте ИБП в закрытом помещении с контролируемой температурой и влажностью, в котором отсутствуют проводящие загрязняющие вещества. Температура окружающего воздуха не должна превышать 40°C. Не эксплуатируйте устройство около воды или в местах с повышенной влажностью (макс. 95%).
- Для моделей ИБП с постоянно запаянными выходными контактами устройство защиты от перегрузки выходного контура (контуров) переменного тока приобретается отдельно.
- Для моделей ИБП с постоянно запаянными выходными контактами соответствующие размыкающие переключатели выходного контура (контуров) переменного тока приобретаются отдельно.

Advertencias de Seguridad

INSTRUCCIONES DE SEGURIDAD IMPORTANTES GUARDE ESTAS INSTRUCCIONES

Este manual contiene instrucciones importantes que debe seguir durante la instalación y el mantenimiento del SIE y del PDM. Por favor, lea todas las instrucciones antes de poner en funcionamiento el equipo y guarde este manual para referencia en el futuro.



PELIGRO

Este SIE contiene VOLTAJES MORTALES. Todas las reparaciones y el servicio técnico deben ser efectuados SOLAMENTE POR PERSONAL DE SERVICIO TÉCNICO AUTORIZADO. No hay NINGUNA PARTE QUE EL USUARIO PUEDA REPARAR dentro del SIE.



PRECAUCIÓN

- Para reducir el riesgo de incendio o de choque eléctrico, instale este SIE en un lugar cubierto, con temperatura y humedad controladas, libre de contaminantes conductores. La temperatura ambiente no debe exceder los 40°C. No trabaje cerca del agua o con humedad excesiva (95% máximo).
- Para los sistemas PDM con salidas cableadas permanentemente, la protección contra exceso de corriente para el/los circuito(s) de CA de salida será suministrada por terceros.
- Para los sistemas PDM con salidas cableadas permanentemente, los interruptores de desconexión debidamente clasificados para el/los circuito(s) de CA de salida serán suministrados por terceros.

Säkerhetsföreskrifter

VIKTIGA SÄKERHETSFÖRESKRIFTER SPARA DESSA FÖRESKRIFTER

Den här anvisningen innehåller viktiga instruktioner som du ska följa under installation och underhåll av UPS-enheten och PDM. Läs alla instruktioner innan du använder utrustningen och spara den här anvisningen för framtida referens.



FARA

Denna UPS-enhet innehåller LIVSFARLIG SPÄNNING. ENDAST AUKTORISERAD SERVICEPERSONAL får utföra reparationer eller service. Det finns inga delar som ANVÄNDAREN KAN UTFÖRA SERVICE PÅ inuti UPS-enheten.



VIKTIGT

- Minska risken för brand eller elektriska stötar genom att installera denna UPS-enhet inomhus, där temperatur och luftfuktighet är kontrollerade och där inga ledande föroreningar förekommer. Omgivande temperatur får ej överstiga 40°C. Använd inte utrustningen nära vatten eller vid hög luftfuktighet (max 95 %).
- Överströmsskydd för de utgående växelströmskretsarna ska tillhandahållas av andra för PDM-system med fasta utgångar.
- Bortkopplingsswitchar med passande dimensionering för de utgående växelströmskretsarna ska tillhandahållas av andra för PDM-system med fasta utgångar.

Chapter 2 Installation

This section explains:

- Equipment inspection
- UPS setup
- Extended Battery Module (EBM) installation
- PowerPass Distribution Module and UPS installation
- Remote emergency power-off (REPO) installation
- PDM rear panels

Inspecting the Equipment

If any equipment has been damaged during shipment, keep the shipping cartons and packing materials for the carrier or place of purchase and file a claim for shipping damage. If you discover damage after acceptance, file a claim for concealed damage.

To file a claim for shipping damage or concealed damage: 1) File with the carrier within 15 days of receipt of the equipment; 2) Send a copy of the damage claim within 15 days to your service representative.



NOTE Check the battery recharge date on the shipping carton label. If the date has expired and the batteries were never recharged, do not use the UPS. Contact your service representative.

NOTE Inspect the battery trays for any loose connections. If any damage occurred during shipment, file a shipping claim as stated above.

UPS Setup

The Powerware 9125 UPS is designed for flexible configurations and can be installed in a rack or as a standalone cabinet.

If the UPS is already installed and operating, shut down the UPS before installing the PDM. See the following section, “UPS Shutdown.”

For new UPS installations, continue to “Installing the UPS Internal Batteries” on page 14 to begin the UPS setup.

UPS Shutdown

If the UPS is already installed and operating, use the following procedure to shut down the UPS:

1. Prepare your equipment for shutdown.
2. Press and hold the Off  button for approximately three seconds. The  indicator begins to flash. The UPS switches to Standby mode (if utility power is available) and removes power from your equipment.
3. Unplug the UPS; the UPS shuts down in five seconds. The bar graph and battery indicators flash briefly prior to shutdown.
4. Disconnect the power cord from the UPS input connector.
5. Disconnect the protected equipment power cord from the UPS.
6. Continue to "Hardwired PDM Installation" on page 19 or "Plug-Receptacle PDM Installation" on page 28.

Installing the UPS Internal Batteries



CAUTION

The UPS battery trays are heavy (28.1 kg/62 lb). A minimum of two people are required to lift the battery trays into the UPS chassis.



NOTE For new rack-mounted installations, follow the instructions with the rail kit before installing the internal batteries.

To install the battery trays into the UPS chassis:

1. Verify that the battery circuit breaker on the UPS rear panel is in the OFF position (see Figure 6 on page 18).
2. Slide the battery trays into the chassis (see Figure 1).

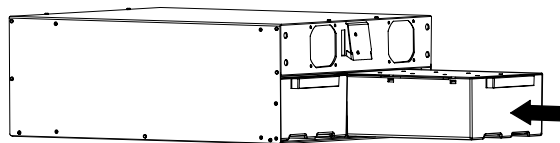


Figure 1. Installing the Battery Trays

3. Secure the battery trays to the chassis with the battery retaining bracket and screws provided in the accessory kit (see Figure 2).

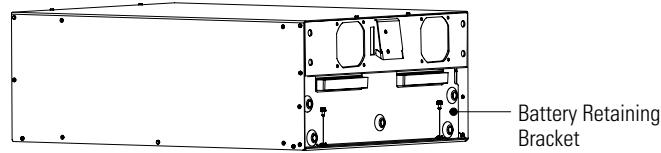


Figure 2. Securing the Battery Trays

4. Install the UPS front covers (provided in the accessory kit). See Figure 3.

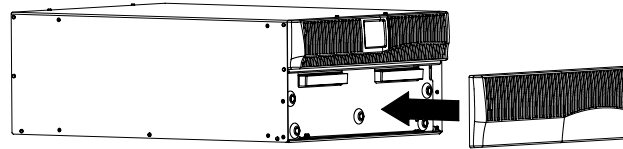


Figure 3. Installing the UPS Front Covers

5. If you are installing the UPS in a tower configuration, continue to the following section, "Tower Setup."

If the UPS is in a rack and you are installing an optional EBM, continue to "EBM Installation" on page 18; otherwise, continue to "Hardwired PDM Installation" on page 19 or "Plug-Receptacle PDM Installation" on page 28.

Tower Setup

The UPS and any optional cabinets must be stabilized with joining brackets.

1. Carefully position the cabinets upright (see Figure 4).



NOTE The PDM must be installed to the right of the UPS (between the UPS and EBM) as shown in Figure 4.

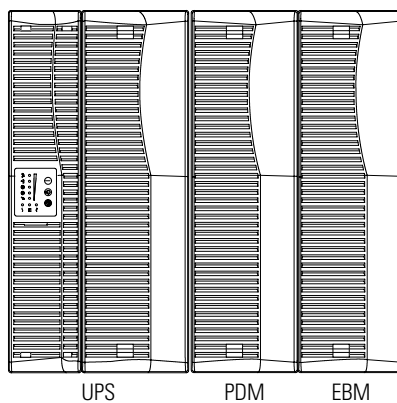


Figure 4. Tower PDM Configuration

2. Align each joining bracket with the adjacent cabinet screw holes and secure with the supplied screws (see Figure 5).

3. If installing additional cabinets, repeat Step 2 for each cabinet.

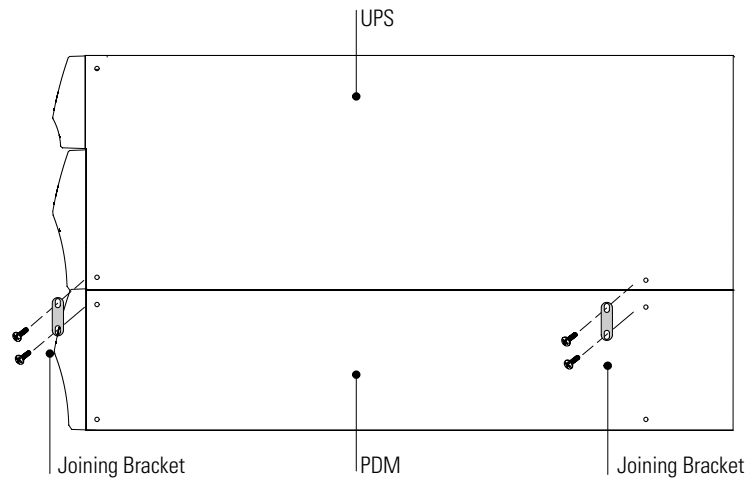


Figure 5. Installing the Joining Brackets (Top View)

4. If you are installing an optional EBM, continue to the following section, “EBM Installation;” otherwise, continue to “Hardwired PDM Installation” on page 19 or “Plug-Receptacle PDM Installation” on page 28.

EBM Installation



CAUTION

A small amount of arcing may occur when connecting an EBM to the UPS. This is normal and will not harm personnel. Insert the EBM cable into the UPS battery connector quickly and firmly.

To install the optional EBM(s):

1. Verify that all battery circuit breakers are in the OFF (O) position (see Figure 6).
2. Plug the EBM cable of the first EBM into the UPS battery connector.

If additional EBMs are to be installed, plug the EBM cable of the second cabinet into the battery connector on the first EBM. Repeat for each additional EBM. Up to four EBMs may be connected to the UPS.

3. Continue to the following section, "Hardwired PDM Installation," or "Plug-Receptacle PDM Installation" on page 28.

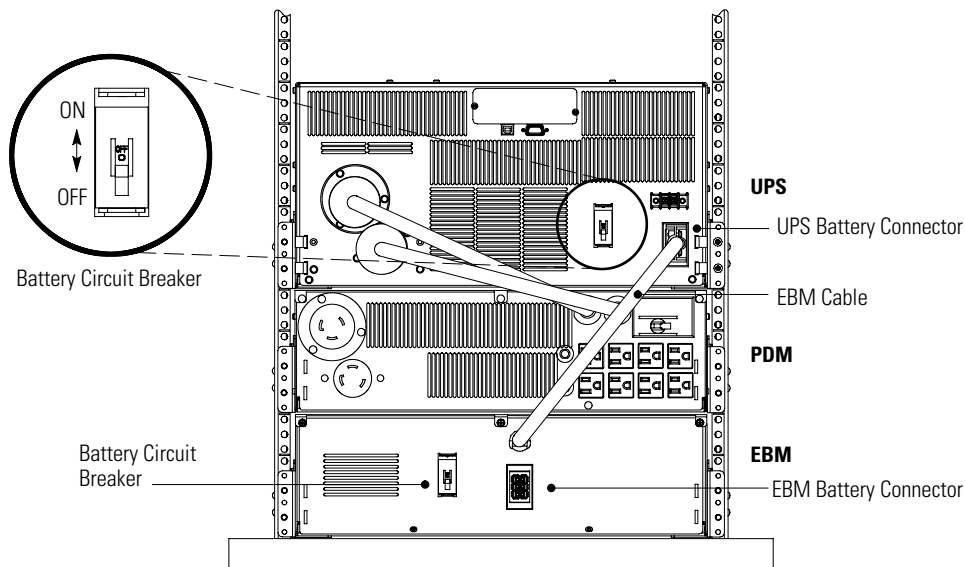


Figure 6. Typical UPS Installation with EBM and PDM

Hardwired PDM Installation



WARNING

Only qualified service personnel (such as a licensed electrician) shall perform the electrical installation. Risk of electrical shock.



CAUTION

- For PDM models with hardwired outputs, overcurrent protection for the output AC circuit(s) is to be provided by others.
- For PDM models with hardwired outputs, suitably rated disconnect switches for the output AC circuit(s) are to be provided by others.



NOTE *Do not make unauthorized changes to the UPS or PDM; otherwise, damage may occur to your equipment and void your warranty.*

The Powerware 9125 hardwired models require a dedicated branch circuit that meets the following requirements:

- 40A minimum circuit with short circuit and overcurrent protection
- 200–240 Vac
- Single-phase
- 50/60 Hz
- The breaker must be wall-mounted and be readily accessible to the operator
- Flexible metal conduit (recommended for ease of service and maintenance)

Figure 7 shows the operation of the UPS with the PPDM HW model, and Figure 8 shows the PPDM EURO HW model. For a more detailed schematic, see Figure 22 on page 42 or Figure 23 on page 43.

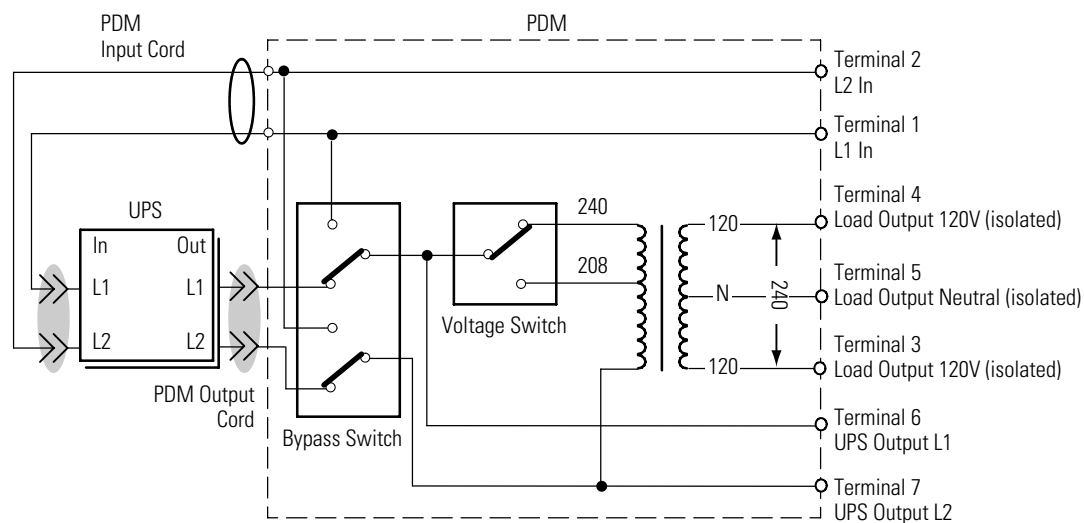


Figure 7. UPS with PPDM HW PDM Block Diagram

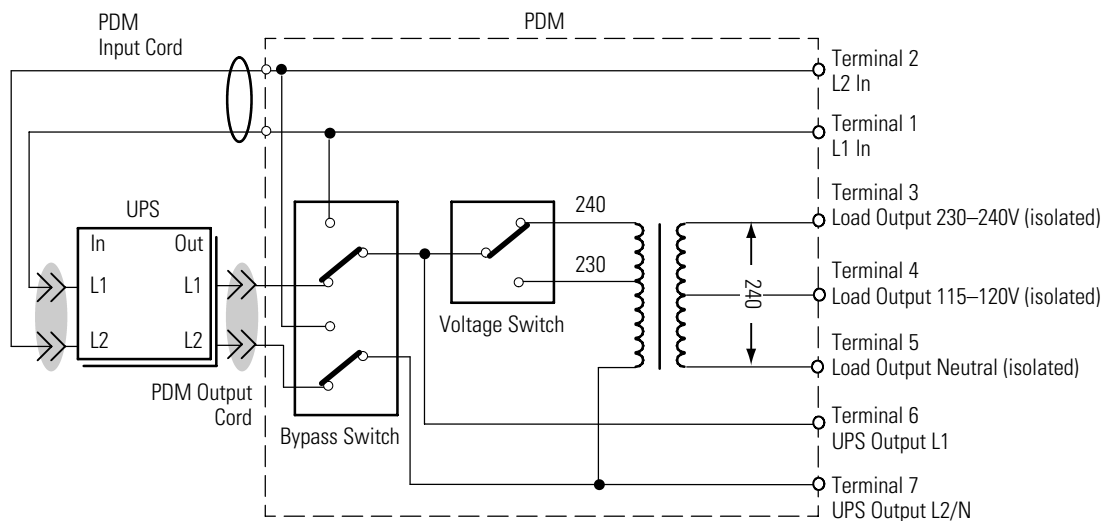


Figure 8. UPS with PPDM EURO HW PDM Block Diagram

To hardwire the PDM:

1. If you are installing power management software, connect your computer to the USB port or UPS communication port. For the communication port, use only the serial cable supplied in the accessory kit.
2. Switch off utility power at the distribution point where the PDM will be connected. Be absolutely sure there is no power.
3. Verify that the PDM output circuit breaker is in the OFF position (see Figure 10 on page 23).
4. Verify that the bypass switch on the PDM is in the NORMAL position (see Figure 9).

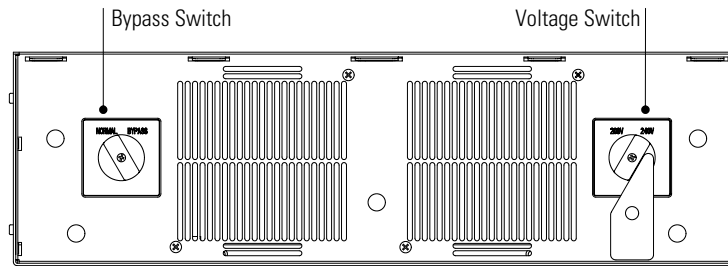


Figure 9. PDM (with Front Cover Removed)

5. **Changing the PDM voltage switch setting.** When the PDM voltage switch is set to the 240V position (the default) with 240V input, the output voltage is 240/120V. When set to the 208V position with 208V input, the output voltage is 208/120V. See Table 1 for a list of PDM input/output voltage settings. Figure 9 shows the voltage switch.



NOTE In most applications, the voltage switch does NOT need changing.

To change the switch position, remove the bracket screw and turn the switch. Flip the bracket around to fit the new position and reinstall.

Table 1. Hardwired PDM Input/Output Voltage Settings

Input Voltage (from UPS)	PPDM HW Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	HV	LV	HV	LV
208	208	120	208	104
220	220	126	220	110
230	230	131	230	115
240	240	138	240	120

Input Voltage (from UPS)	PPDM EURO HW Models Output Voltage			
	230V Switch Position		Default 240V Switch Position	
	HV	LV	HV	LV
220	230	115	220	110
230	240	120	230	115
240	250	125	240	120

6. Remove the wiring access cover and the conduit landing plate and retain (see Figure 10).

Punch holes in the conduit landing plate for the input and output conduit using a Greenlee® punch or similar device.

7. Pull the input and output wires through separate conduit, leaving approximately 0.5m (2 ft) of exposed wire. Attach a flexible metal fitting to the end of each conduit.
8. Insert each conduit through a wiring access entry and attach the conduit fitting to the panel. Strip 9 mm (0.35") of insulation from the end of each incoming wire.

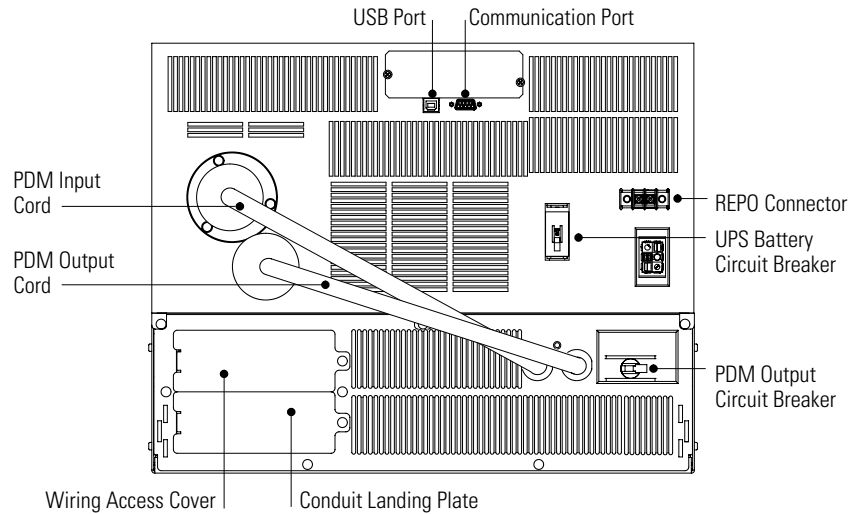


Figure 10. UPS and Hardwired PDM Installation

9. Connect the input and ground wires to the terminal block according to the PDM model:
 - For the PPDM HW model, see Figure 11 and Table 2.
 - For the PPDM EURO HW model, see Figure 12 and Table 2.
10. Connect the output and ground wires to the terminal block according to the PDM model:
 - For the PPDM HW model, see Figure 11 and Table 2.
 - For the PPDM EURO HW model, see Figure 12 and Table 2.

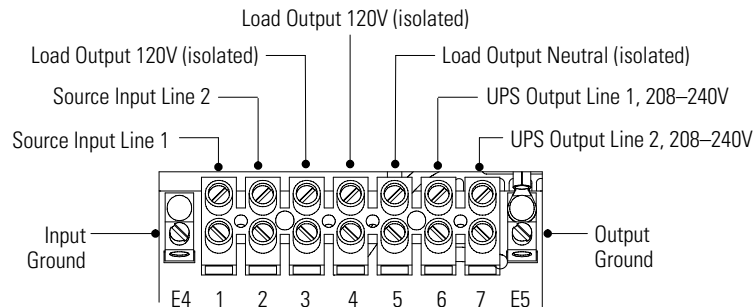


Figure 11. PPDM HW Model Terminal Block

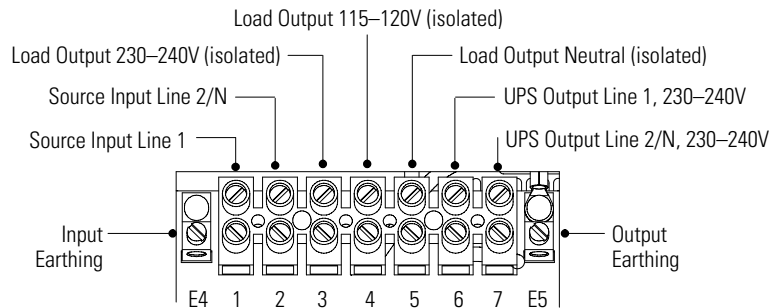


Figure 12. PPDM EURO HW Model Terminal Block

Table 2. PDM Wiring Specifications

Terminal Position	PDM Wire Function		Terminal Wire Size Rating*	Tightening Torque
	PPDM HW	PPDM EURO HW		
1	Source Input Line 1	Source Input Line 1	2–17 mm ² (14–6 AWG)	1.8 ±0.22 Nm (16 ±2 lb in)
2	Source Input Line 2	Source Input Line 2/N		
3	Load Output 120V (isolated)	Load Output 230–240V (isolated)		
4	Load Output 120V (isolated)	Load Output 115–120V (isolated)		
5	Load Output Neutral (isolated)	Load Output Neutral (isolated)		
6	UPS Output Line 1, 208–240V	UPS Output Line 1, 230–240V		
7	UPS Output Line 2, 208–240V	UPS Output Line 2/N, 230–240V		
E4	Input Ground	Input Earthing	2–5 mm ² (14–10 AWG)	2.26 ±0.22 Nm (20 ±2 lb in)
E5	Output Ground	Output Earthing	8 mm ² (8 AWG)	2.82 ±0.22 Nm (25 ±2 lb in)
			17 mm ² (6 AWG)	3.95 ±0.22 Nm (35 ±2 lb in)

* Use 2.0 mm² (14 AWG) 75°C copper wire minimum.

11. Replace the wiring access cover and the conduit landing plate.
12. Plug the input and output cords of the PDM into the input and output power connectors on the UPS rear panel (see Figure 10).

13. Remove the breaker tie from all battery circuit breakers.
14. Switch all battery circuit breakers to the ON (|) position.
15. If an emergency power-off (disconnect) switch is required by local codes, see "Remote Emergency Power-off Installation" on page 26 to install the REPO switch before powering on the UPS.
16. Switch the main utility breaker on.

The ~ indicator flashes, indicating the UPS is in Standby mode with the equipment offline.
17. Press the On | button on the UPS front panel.

The ~ indicator illuminates solid and the bar graph indicators display the percentage of load being applied to the UPS.
18. Confirm the UPS output voltage through the front panel and verify that it matches the PDM output voltage (see page 35).

CAUTION



Failure to match the UPS output voltage may result in a hazardous condition, including damage to the UPS or to the load.

19. Switch the PDM output circuit breaker to the ON (|) position.



NOTE The PDM output circuit breaker (disconnect switch) disconnects power to the output on the PDM rear panel, but does NOT shut off power to the UPS (opening the upstream protection would be required).

20. Install the PDM front cover (shipped separately).
21. If you installed a REPO switch, test the REPO function:

Activate the external REPO switch.

De-activate the external REPO switch and restart the UPS.



NOTE The batteries charge to 80% capacity in less than 2 hours. However, it is recommended that the batteries charge for 24 hours after installation or long-term storage.

NOTE If you installed power management software and optional EBM's, ensure maximum battery runtime by using the Virtual Front Panel UPS utility on the Software Suite CD.

Remote Emergency Power-off Installation

The Powerware 9125 includes a REPO connector that allows power to be switched off at the UPS output from a customer-supplied switch in a remote location.

The REPO feature shuts down the protected equipment immediately and does not follow the orderly shutdown procedure initiated by any power management software.

Any devices that are operating on battery power are also shut down immediately. When the REPO switch is reset, the equipment will not return to battery power until the UPS is manually restarted.

If the Off  button is pressed after the REPO is activated, the UPS remains in Standby mode when restarted until the On  button is pressed.

WARNING



The REPO circuit is an IEC 60950 safety extra low voltage (SELV) circuit. This circuit must be separated from any hazardous voltage circuits by reinforced insulation.

CAUTION



To ensure the UPS stops supplying power to the load during any mode of operation, the input power must be disconnected from the UPS when the emergency power-off function is activated.



NOTE The REPO function activates when the REPO contacts close.

To install the REPO switch:

1. Verify that the UPS is off and unplugged.
2. Connect the switch or circuit to the REPO connector on the UPS rear panel using insulated 0.75 mm²–0.5 mm² (18–20 AWG) wire. See Figure 13.



NOTE A separate contact must simultaneously cause UPS input AC power to be removed.

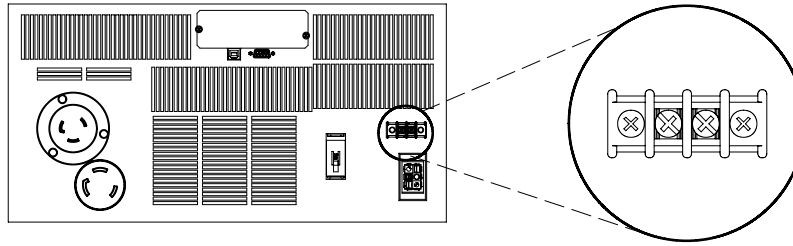


Figure 13. REPO Connector

3. Verify that the externally-connected REPO switch is not activated to enable power to the UPS output.
4. For hardwired PDMs, return to Step 16 on page 25.
For plug-receptacle PDMs, return to Step 10 on page 30.

Plug-Receptacle PDM Installation



NOTE Do not make unauthorized changes to the UPS or PDM; otherwise, damage may occur to your equipment and void your warranty.

To install the PDM:

1. If you are installing power management software, connect your computer to the USB port or UPS communication port. For the communication port, use only the serial cable supplied in the accessory kit.
2. Verify that the PDM output circuit breaker is in the OFF position (see Figure 15 on page 30).
3. Verify that the bypass switch on the PDM is in the NORMAL position (see Figure 14).

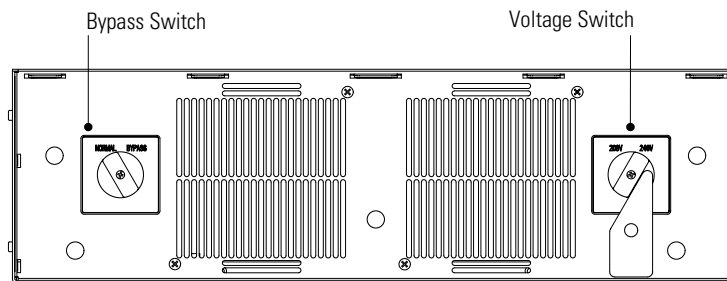


Figure 14. PDM (with Front Cover Removed)

4. **Changing the PDM voltage switch setting.** All high voltage outlets, except the L14-30, use the UPS output voltage. The L14-30 and all low voltage receptacles use the PDM transformer, and the voltage switch determines the voltage. See Table 3 for a complete list of PDM input/output voltage settings. Figure 14 shows the voltage switch.



NOTE In most applications, the voltage switch does NOT need changing.

To change the switch position, remove the bracket screw and turn the switch. Flip the bracket around to fit the new position and reinstall.

Table 3. Plug-Receptacle PDM Input/Output Voltage Settings

Input Voltage (from UPS)	PPDM L6-30 and PPDM L6-20 Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	L6-30R or L6-20R	5-15R	L6-30R or L6-20R	5-15R
208	208	120	208	104
220	220	126	220	110
230	230	131	230	115
240	240	136	240	120

Input Voltage (from UPS)	PPDM L5-30 Models Output Voltage	
	208V Switch Position	Default 240V Switch Position
208	120	104
220	126	110
230	131	115
240	136	120

Input Voltage (from UPS)	PPDM L14-30 Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	L14-30R	5-15R	L14-30R	5-15R
208	240	120	208	104
220	252	126	220	110
230	262	131	230	115
240	272	136	240	120

Input Voltage (from UPS)	PPDM L6-30&L14-30 Models Output Voltage					
	208V Switch Position			Default 240V Switch Position		
	L6-30R	L14-30R	5-15R	L6-30R	L14-30R	5-15R
208	208	240	120	208	208	104
220	220	252	126	220	220	110
230	230	262	131	230	230	115
240	240	272	136	240	240	120

5. **Neutral-to-Ground Bonding.** The PDM has a neutral-to-ground (N-G or neutral-to-earth) bonding screw as required under safety regulations issued by various regulatory agencies (see Figure 15). If the neutral-to-ground connection is not needed, remove the screw to remove the bond between neutral and ground.
6. Plug the input and output cords of the PDM into the input and output power connectors on the UPS rear panel (see Figure 15).

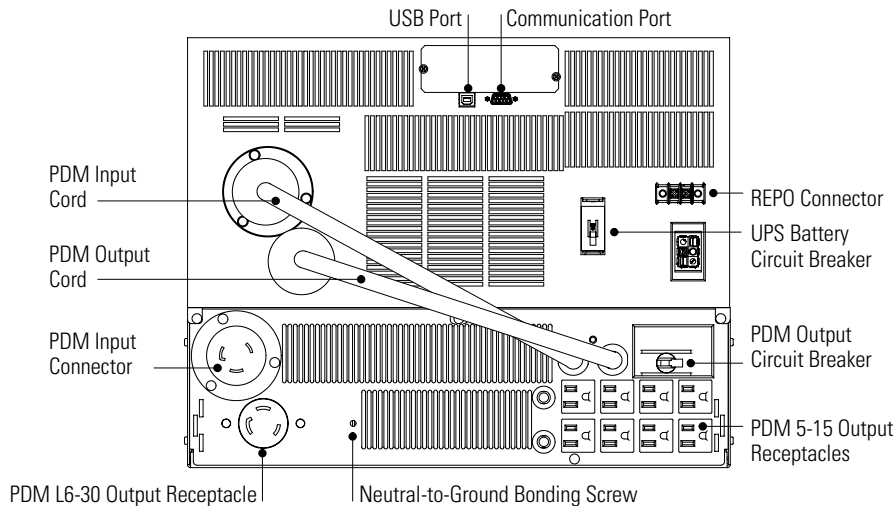


Figure 15. UPS and Plug-Receptacle PDM Installation (L6-30 Model Shown)

7. Remove the breaker tie from all battery circuit breakers.
8. Switch all battery circuit breakers to the ON (|) position.
9. If an emergency power-off (disconnect) switch is required by local codes, see "Remote Emergency Power-off Installation" on page 26 to install the REPO switch before powering on the UPS.
10. Plug the detachable UPS power cord into the input connector on the PDM rear panel.
11. Plug the UPS power cord into an L6-30 power outlet.

The ~ indicator flashes, indicating the UPS is in Standby mode with the equipment offline.

12. Press the On | button on the UPS front panel.

The ~ indicator illuminates solid and the bar graph indicators display the percentage of load being applied to the UPS.

13. Confirm the UPS output voltage through the front panel and verify that it matches the PDM output voltage (see page 35).

CAUTION



Failure to match the UPS output voltage may result in a hazardous condition, including damage to the UPS or to the load.

14. Plug the equipment to be protected into the PDM output receptacle(s).



NOTE DO NOT protect laser printers with the UPS because of the exceptionally high power requirements of the heating elements.

15. Switch the PDM output circuit breaker to the ON (|) position.



NOTE The PDM output circuit breaker (disconnect switch) disconnects power to all of the output receptacles on the PDM rear panel, but does NOT shut off power to the UPS (opening the upstream protection would be required).

16. Install the PDM front cover (shipped separately).

17. If you installed a REPO switch, test the REPO function:

Activate the external REPO switch.

De-activate the external REPO switch and restart the UPS.



NOTE The batteries charge to 80% capacity in less than 2 hours. However, it is recommended that the batteries charge for 24 hours after installation or long-term storage.

NOTE If you installed power management software and optional EBM's, ensure maximum battery runtime by using the Virtual Front Panel UPS utility on the Software Suite CD.

Plug-Receptacle PDM Rear Panels

This section shows the rear panels of the plug-receptacle PDM models.

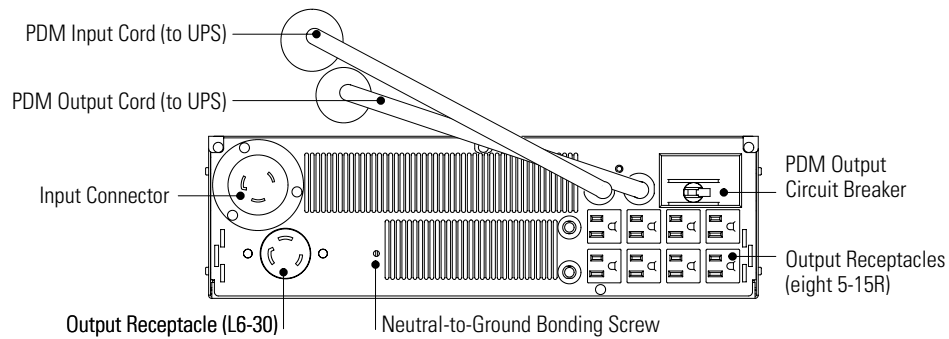


Figure 16. PPDM L6-30

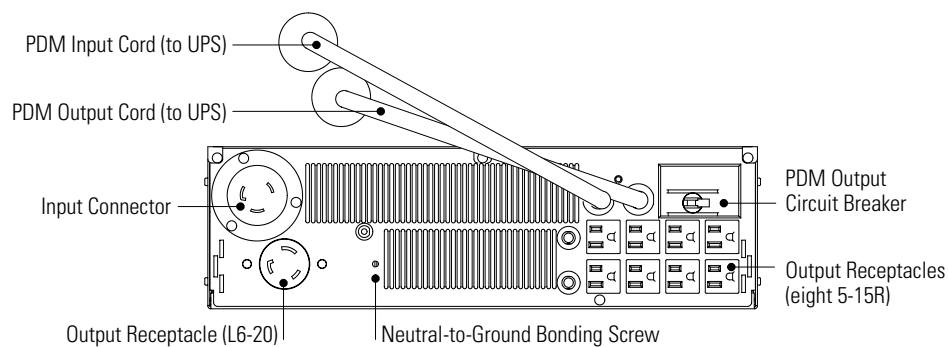


Figure 17. PPDM L6-20

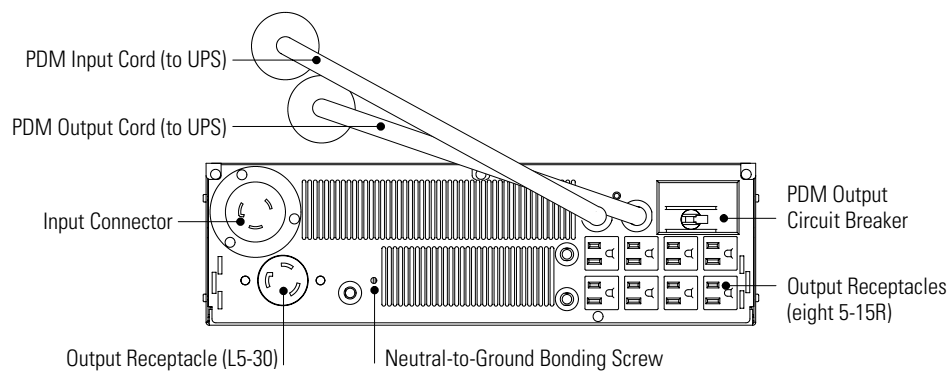


Figure 18. PPDM L5-30

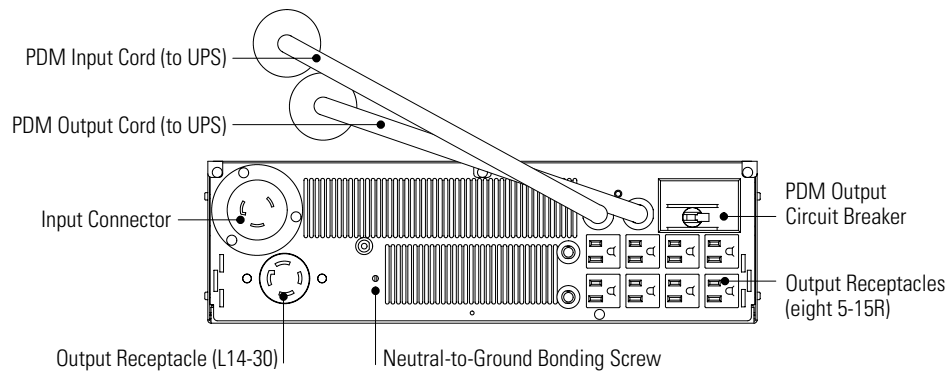


Figure 19. PPDM L14-30

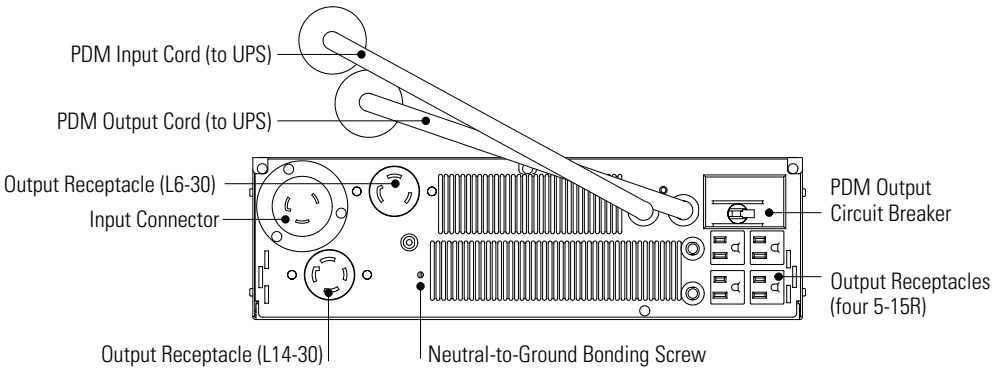


Figure 20. PPDM L6-30&L14-30

Chapter 3 Configuration

When the UPS is in Configuration mode, the bar graph indicators represent the configuration options. Use the control buttons (On | button and  button) to modify the UPS configuration. Figure 21 shows the LEDs and Table 4 explains the corresponding options.



NOTE *The UPS can be configured while in Battery mode.*



CAUTION

DO NOT press the Off  button while the UPS is in Configuration mode; pressing the Off  button removes all power to your equipment immediately and the UPS enters Standby mode.

To reconfigure the UPS default settings:

1. Press and hold the On | button and the  button simultaneously for three seconds. The UPS switches to Configuration mode.

The bar graph indicators flash briefly and then display the enabled options.

2. Press and hold the On | button until you hear the second beep to scroll through the options. The LED for the selected option indicates the current setting; flashing represents disabled options (see Figure 21 and Table 4).

Scrolling past the last LED returns to the first configuration option.

If you press the On | button and nothing happens, the UPS is still in Operation mode. Repeat Step 1 to enter Configuration mode, and then perform Step 2.

3. Press the  button ONCE to select the Voltage option or to toggle the Site Wiring Fault Alarm on or off.



NOTE *The UPS exits Configuration mode automatically after two minutes of inactivity.*

4. Press and hold the On | button and the  button simultaneously for three seconds to exit Configuration mode at any time.

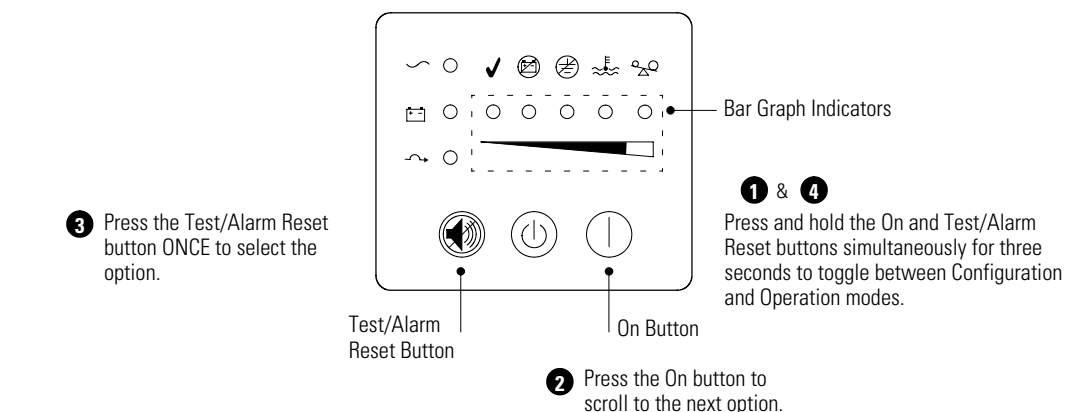


Figure 21. Using Configuration Mode

Table 4. Configuration Mode LEDs and Options

Bar Graph Indicators	Option	LED Status	Explanation
	240V Nominal Output Voltage	On	Nominal output voltage is 240V. All other nominal output voltages are disabled.
		Flashing	240V is disabled; one of the other output voltage options is selected.
	230V Nominal Output Voltage	On (default)	Nominal output voltage is 230V. All other nominal output voltages are disabled.
		Flashing	230V is disabled; one of the other output voltage options is selected.
	220V Nominal Output Voltage	On	Nominal output voltage is 220V. All other nominal output voltages are disabled.
		Flashing	220V is disabled; one of the other output voltage options is selected.
	208V Nominal Output Voltage	On	Nominal output voltage is 208V. All other nominal output voltages are disabled.
		Flashing	208V is disabled; one of the other output voltage options is selected.
	Site Wiring Fault Alarm	On	Alarm sounds when the polarity of the outlet is reversed or the ground connection is missing; have a qualified electrician repair the outlet wiring.
		Flashing (default)	Alarm DOES NOT sound when the polarity of the outlet is reversed or the ground connection is missing.

Chapter 4 Operation



NOTE Refer to the Powerware 9125 Two-in-One UPS (5000/6000 VA) User's Guide for UPS operation.

The PowerPass Distribution Module allows for the removal of the UPS while providing power to your protected equipment. This Maintenance Bypass feature is useful when replacing the UPS for maintenance or upgrades.

Using Maintenance Bypass

To transfer your equipment to Maintenance Bypass (AC Line operation) and remove the UPS:

1. Remove the PDM front cover.
2. Turn the bypass switch on the PDM to the BYPASS position. The PDM is now powering your equipment from utility power.
3. Press and hold the Off  button on the UPS front panel for approximately three seconds. The UPS switches to Standby mode.
4. If optional Extended Battery Modules (EBMs) are installed, switch the battery circuit breaker on the first EBM rear panel to the OFF (O) position.

Unplug the EBM cable from the UPS.

5. Disconnect the PDM input and output cords from the UPS. See Figure 15 on page 30.

The UPS shuts down in five seconds. The bar graph and battery indicators flash briefly prior to shutdown.

6. Remove the UPS.

To reinstall the UPS and transfer your equipment from Maintenance Bypass (AC Line operation) to the UPS:

1. If optional EBM(s) are installed, reconnect the EBM cable to the battery connector on the UPS rear panel.

Switch the battery circuit breaker on the first EBM rear panel to the ON (|) position.

2. Plug the input and output cords of the PDM into the input and output power connectors on the UPS rear panel (see Figure 15 on page 30).

The ~ indicator flashes, indicating the UPS is in Standby mode with the equipment offline.

3. Press the On | button on the UPS front panel.

The ~ indicator illuminates solid.

4. If the PDM voltage switch is set to 208V, confirm the UPS output voltage through the front panel (see page 35).

5. Turn the bypass switch on the PDM to the NORMAL position.

The bar graph indicators display the percentage of load being applied to the UPS. The UPS is now in Normal mode and supplying power to your equipment.

6. Reinstall the PDM front cover.

Chapter 5 Specifications

Table 5. Model Specifications

Model	Input Voltage	Input Current	Output Voltage ¹	Output Current	Output Receptacles
PPDM HW	208/240V	30A	115/120V	41A/208V	Hardwired
			208/240V	45A/240V	
PPDM EURO HW	230/240V	30A	115/120/230/240V	30A	Hardwired
PPDM L6-30	208/240V	24A	115/120/208/240V	30A	(1) L6-30R, (8) 5-15R
PPDM L6-20	208/240V	24A	115/120V	20A	(1) L6-20R, (8) 5-15R
			208/240V	30A	
PPDM L5-30	208/240V	24A	115/120V	41A/208V 45A/240V	(1) L5-30R, (8) 5-15R
PPDM L14-30	208/240V	24A	115/120V	41A/208V	(1) L14-30R, (8) 5-15R
			208/240V	45A/240V	
PPDM L6-30&L14-30	208/240V	24A	115/120V	41A/208V	(1) L6-30R, (1) L14-30R, (4) 5-15R
			208/240V	45A/240V	

¹ Output voltage varies $\pm 5\%$ based on the attached load.

Table 6. Technical

Frequency	60 Hz PPDM EURO HW: 50/60 Hz
Isolation Transformer	208V/120V or 240V/120V
Bypass Switch	30A
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-22°C to 55°C (-7°F to 131°F)
Relative Humidity	5–95% noncondensing
Safety Conformance	UL 1778; CSA C22.2, No. 107.1, 107.2; NOM-019-SCFI EN 50091-1-1, IEC 60950
Agency Markings	cULus, cUL, NOM-NYCE (all models except PPDM EURO HW), CE UL/DEMKO GS (PPDM EURO HW only)
EMC (Class A)	EN 50091-2, FCC Part 15, ICES-003
Dimensions (WxDxH)	44.2 x 68.3 x 13 cm 17.4" x 26.9" x 5.1" (3U)
Weight	46.7 kg (103 lb)

Chapter 6 PDM Schematics

This section shows the schematics of each PDM model.

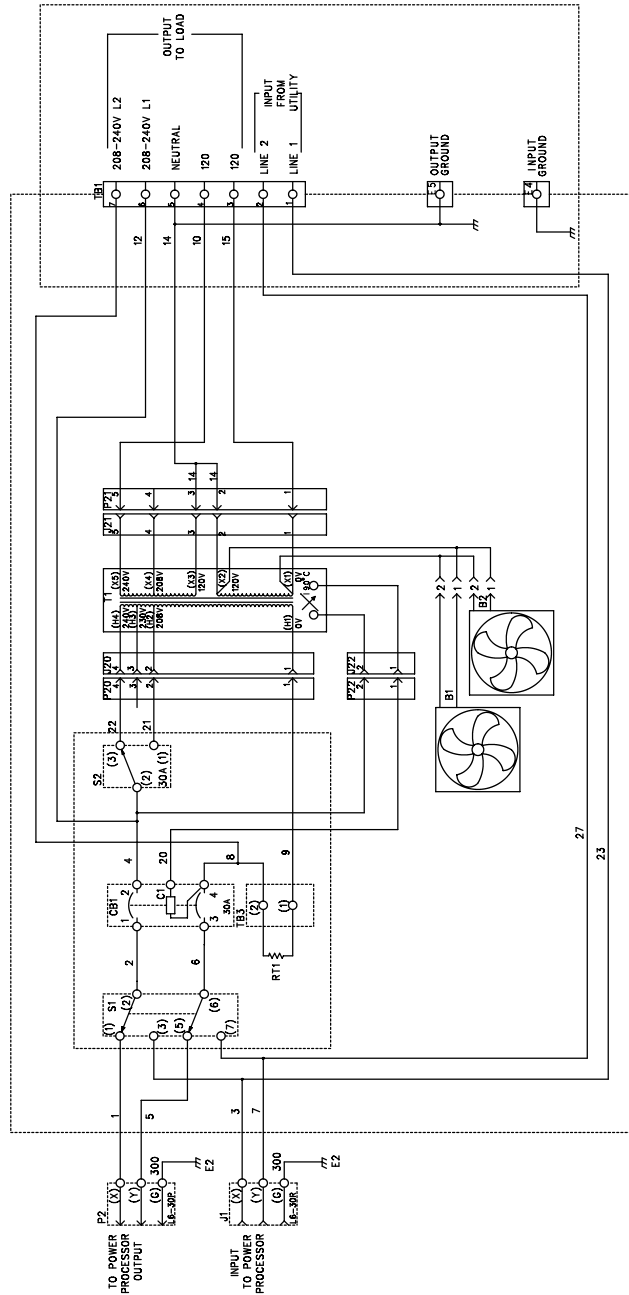
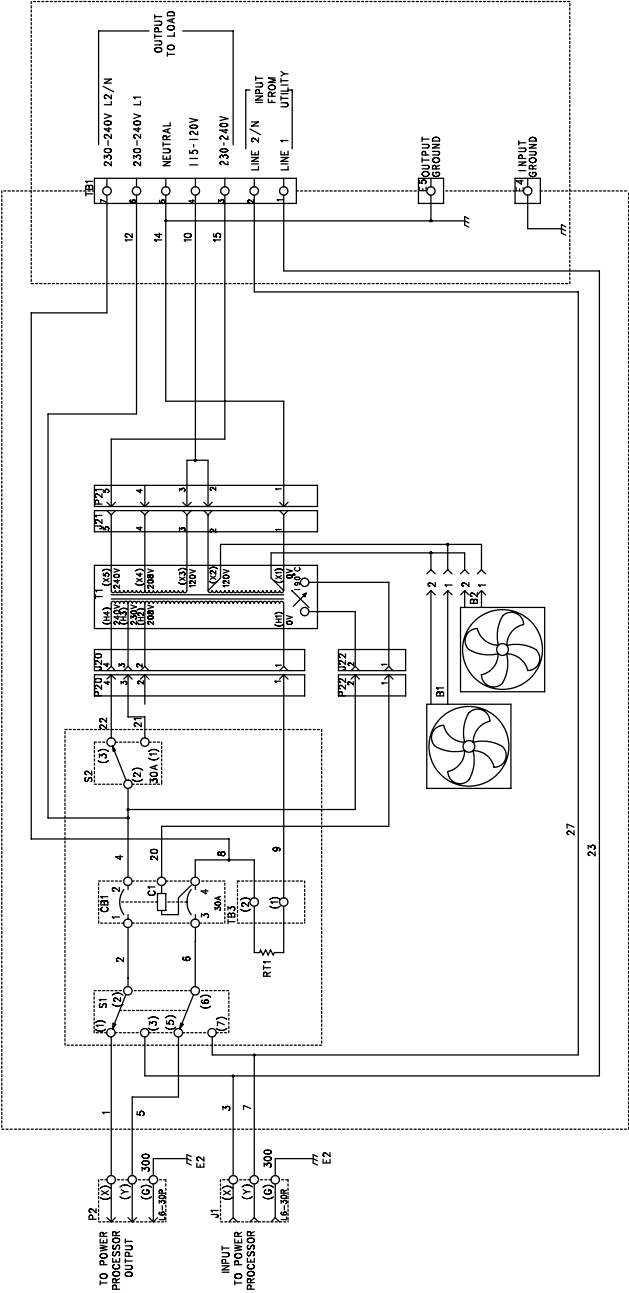


Figure 22. PPDM HW Schematic



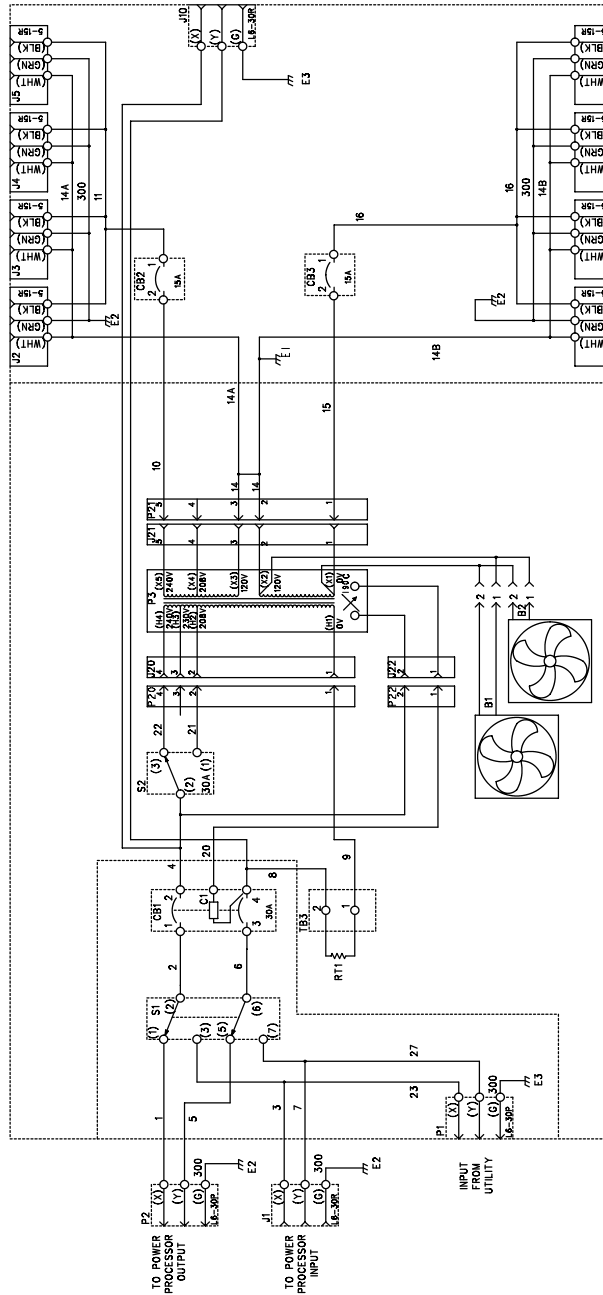


Figure 24. PPDM L6-30 Schematic

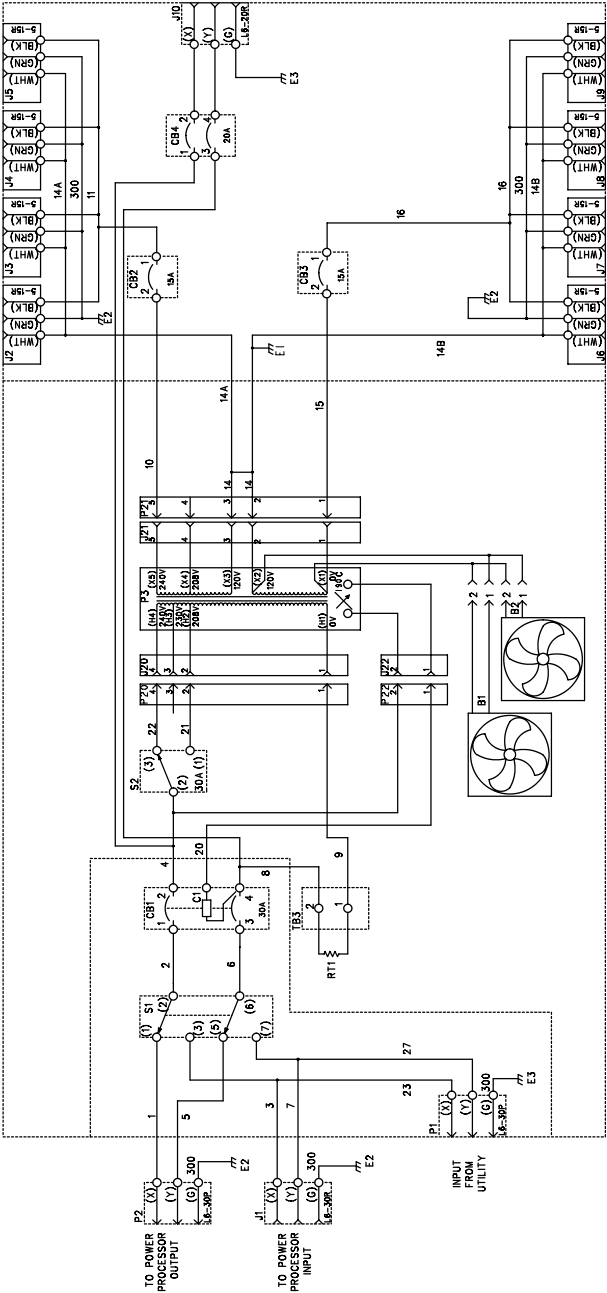


Figure 25. PPDM L6-20 Schematic



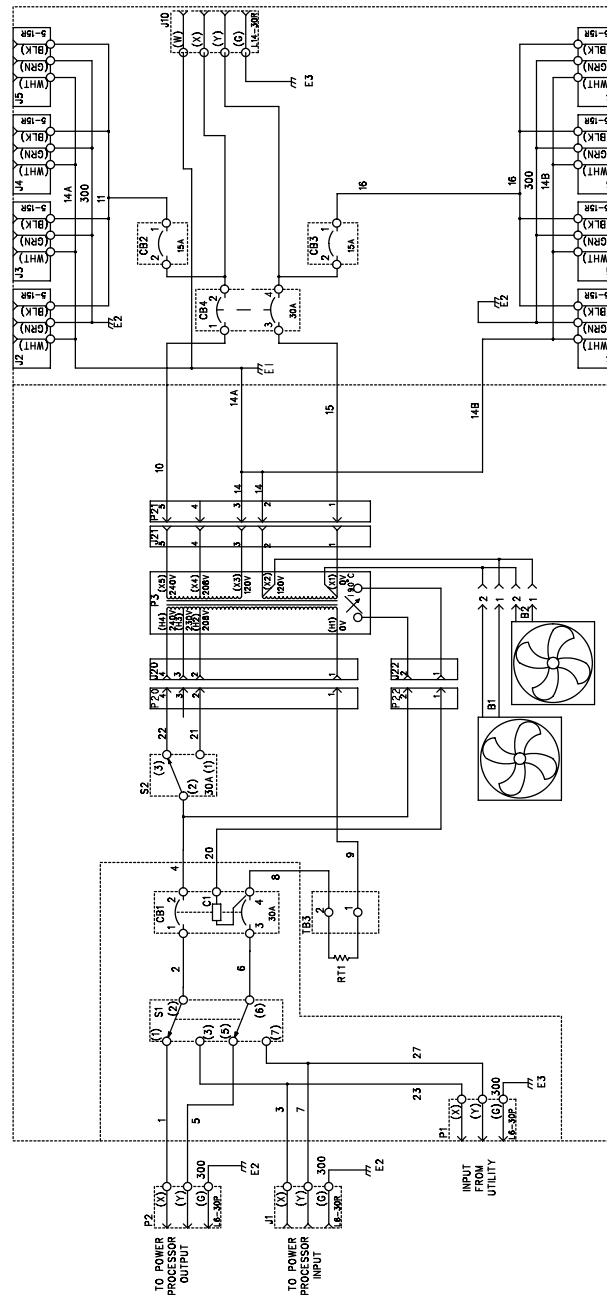


Figure 27. PPDM L14-30 Schematic

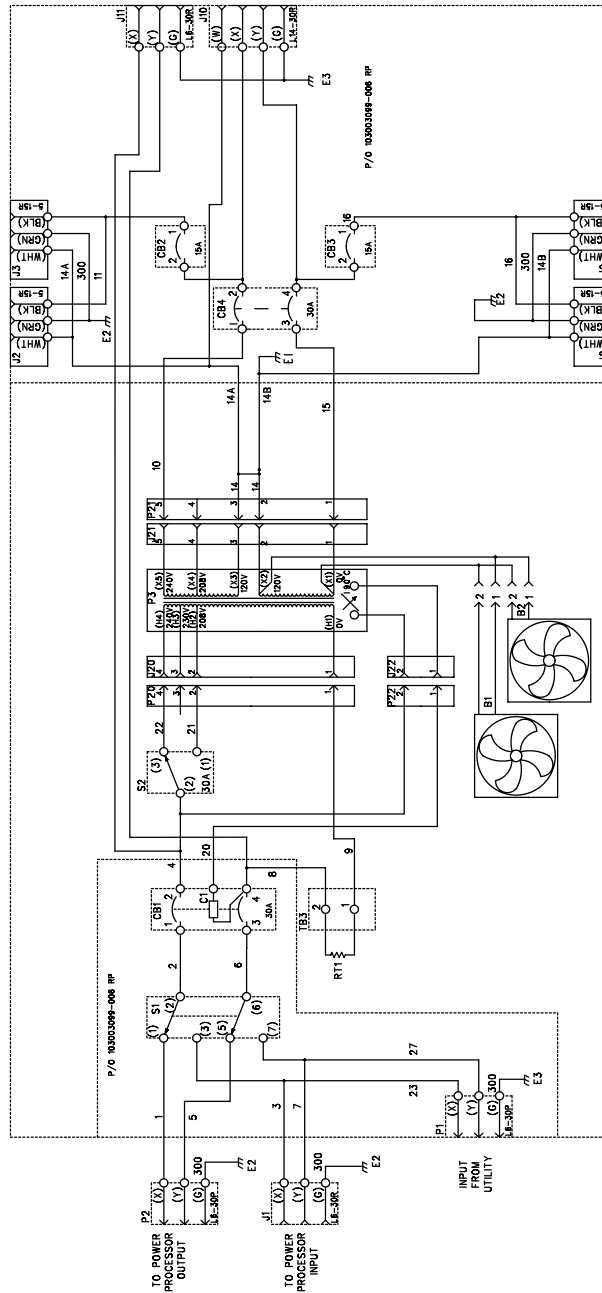


Figure 28. PPDM L6-30&L14-30 Schematic

Chapter 7 Service and Support

If you have any questions or problems with the UPS, call your **Local Distributor** or the **Help Desk** at one of the following telephone numbers and ask for a UPS technical representative.

United States: **1-800-356-5737 or 1-919-870-3149**
Canada: **1-800-461-9166 ext 260**
All other countries: **Call your local service representative**

Please have the following information ready when you call the Help Desk:

- Model number
- Serial number (located behind the UPS front cover)
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) Number. This number must appear on the outside of the package and on the Bill Of Lading (if applicable). Use the original packaging or request packaging from the Help Desk or distributor. Units damaged in shipment as a result of improper packaging are not covered under warranty. A replacement or repair unit will be shipped, freight prepaid for all warrantied units.



NOTE *For critical applications, immediate replacement may be available. Call the **Help Desk** for the dealer or distributor nearest you.*
