

GE Healthcare

2 Phase UPS Installation

For use with:

Brightspeed, Lightspeed (1x-5.x) and Lightspeed Pro¹⁶

OPERATING DOCUMENTATION



5174051-100

Rev 5

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ПРЕДУПРЕЖДЕНИЕ	Това упътване за работа е налично само на английски език.
(BG)	<ul style="list-style-type: none"> • Ако доставчикът на услугата на клиента изиска друг език, задължение на клиента е да осигури превод. • Не използвайте оборудването, преди да сте се консултирали и разбрали упътването за работа. • Неспазването на това предупреждение може да доведе до нараняване на доставчика на услугата, оператора или пациента в резултат на токов удар, механична или друга опасност.
警告 (ZH-CN)	<p>本維修手冊仅提供英文版本。</p> <ul style="list-style-type: none"> • 如果客戶的維修服務人員需要非英文版本，則客戶需自行提供翻譯服務。 • 未詳細閱讀和完全理解本維修手冊之前，不得進行維修。 • 忽略本警告可能對維修服務人員、操作人員或患者造成電擊、機械傷害或其他形式的傷害。
警告 (ZH-HK)	<p>本服務手冊僅提供英文版本。</p> <ul style="list-style-type: none"> • 倘若客戶的服務供應商需要英文以外之服務手冊，客戶有責任提供翻譯服務。 • 除非已參閱本服務手冊及明白其內容，否則切勿嘗試維修設備。 • 不遵從本警告或會令服務供應商、網絡供應商或病人受到觸電、機械性或其他危險。
警告 (ZH-TW)	<p>本維修手冊僅有英文版。</p> <ul style="list-style-type: none"> • 若客戶的維修廠商需要英文版以外的語言，應由客戶自行提供翻譯服務。 • 請勿試圖維修本設備，除非您已查閱並瞭解本維修手冊。 • 若未留意本警告，可能導致維修廠商、操作員或病患因觸電、機械或其他危險而受傷。
UPOZORENJE (HR)	<p>Ovaj servisni priručnik dostupan je na engleskom jeziku.</p> <ul style="list-style-type: none"> • Ako davatelj usluge klijenta treba neki drugi jezik, klijent je dužan osigurati prijevod. • Ne pokušavajte servisirati opremu ako niste u potpunosti pročitali i razumjeli ovaj servisni priručnik. • Zanemarite li ovo upozorenje, može doći do ozljede davatelja usluge, operatera ili pacijenta uslijed strujnog udara, mehaničkih ili drugih rizika.
VÝSTRAHA (CS)	<ul style="list-style-type: none"> • Tento provozní návod existuje pouze v anglickém jazyce. • V případě, že externí služba zákazníkům potřebuje návod v jiném jazyce, je zajištění překladu do odpovídajícího jazyka úkolem zákazníka. • Nesnažte se o údržbu tohoto zařízení, aniž byste si přečetli tento provozní návod a pochopili jeho obsah. • V případě nedodržování této výstrahy může dojít k poranění pracovníka prodejního servisu, obslužného personálu nebo pacientů vlivem elektrického proudu, respektive vlivem mechanických či jiných rizik.
ADVARSEL (DA)	<ul style="list-style-type: none"> • Denne servicemanual findes kun på engelsk. • Hvis en kundes tekniker har brug for et andet sprog end engelsk, er det kundens ansvar at sørge for oversættelse. • Forsøg ikke at servicere udstyret uden at læse og forstå denne servicemanual. • Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk stød, mekanisk eller anden fare for teknikeren, operatøren eller patienten.
WAARSCHUWING (NL)	<ul style="list-style-type: none"> • Deze onderhoudshandleiding is enkel in het Engels verkrijgbaar. • Als het onderhoudspersoneel een andere taal vereist, dan is de klant verantwoordelijk voor de vertaling ervan. • Probeer de apparatuur niet te onderhouden alvorens deze onderhoudshandleiding werd geraadpleegd en begrepen is. • Indien deze waarschuwing niet wordt opgevolgd, zou het onderhoudspersoneel, de operator of een patiënt gewond kunnen raken als gevolg van een elektrische schok, mechanische of andere gevaren.
WARNING (EN)	<p>This service manual is available in English only.</p> <ul style="list-style-type: none"> • If a customer's service provider requires a language other than english, it is the customer's responsibility to provide translation services. • Do not attempt to service the equipment unless this service manual has been consulted and is understood. • Failure to heed this warning may result in injury to the service provider, operator or patient from electric shock, mechanical or other hazards.
HOIATUS (ET)	<ul style="list-style-type: none"> • See teenindusjuhend on saadaval ainult inglise keeles • Kui klienditeeninduse osutaja nõuab juhendit inglise keelest erinevas keeles, vastutab klient tõlketeenuse osutamise eest. • Ärge üritage seadmeid teenindada enne eelnevalt käesoleva teenindusjuhendiga tutvumist ja sellest aru saamist. • Käesoleva hoiatuse eiramine võib põhjustada teenuseosutaja, operaatori või patsiendi vigastamist elektrilöögi, mehaanilise või muu ohu tagajärjel.
VAROITUS (FI)	<ul style="list-style-type: none"> • Tämä huolto-ohje on saatavilla vain englanniksi. • Jos asiakkaan huoltohenkilöstö vaatii muuta kuin englanninkielistä materiaalia, tarvittavan käännöksen hankkiminen on asiakkaan vastuulla. • Älä yritä korjata laitteistoa ennen kuin olet varmasti lukenut ja ymmärtänyt tämän huolto-ohjeen. • Mikäli tätä varoitusta ei noudateta, seurauksena voi olla huoltohenkilöstön, laitteiston käyttäjän tai potilaan vahingoittuminen sähköiskun, mekaanisen vian tai muun vaaratilanteen vuoksi.
ATTENTION (FR)	<ul style="list-style-type: none"> • Ce manuel d'installation et de maintenance est disponible uniquement en anglais. • Si le technicien d'un client a besoin de ce manuel dans une langue autre que l'anglais, il incombe au client de le faire traduire. • Ne pas tenter d'intervenir sur les équipements tant que ce manuel d'installation et de maintenance n'a pas été consulté et compris. • Le non-respect de cet avertissement peut entraîner chez le technicien, l'opérateur ou le patient des blessures dues à des dangers électriques, mécaniques ou autres.
WARNUNG (DE)	<ul style="list-style-type: none"> • Diese Serviceanleitung existiert nur in englischer Sprache. • Falls ein fremder Kundendienst eine andere Sprache benötigt, ist es Aufgabe des Kunden für eine entsprechende Übersetzung zu sorgen. • Versuchen Sie nicht diese Anlage zu warten, ohne diese Serviceanleitung gelesen und verstanden zu haben. • Wird diese Warnung nicht beachtet, so kann es zu Verletzungen des Kundendiensttechnikers, des Bedieners oder des Patienten durch Stromschläge, mechanische oder sonstige Gefahren kommen.
ΠΡΟΕΙΔΟΠΟΙΗΣΗ (EL)	<ul style="list-style-type: none"> • Το παρόν εγχειρίδιο σέρβις διατίθεται μόνο στα αγγλικά. • Εάν ο τεχνικός σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει τις υπηρεσίες μετάφρασης. • Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό αν δεν έχετε συμβουλευτεί και κατανοήσει το παρόν εγχειρίδιο σέρβις. • Αν δεν προσέξετε την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στον τεχνικό σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.
FIGYELMEZTETÉS (HU)	<ul style="list-style-type: none"> • Ezen karbantartási kézikönyv kizárólag angol nyelven érhető el. • Ha a vevő szolgáltatója angoltól eltérő nyelvre tart igényt, akkor a vevő felelőssége a fordítás elkészíttetése. • Ne próbálja elkezdni használni a berendezést, amíg a karbantartási kézikönyvben leírtakat nem értelmezték. • Ezen figyelmeztetés figyelmen kívül hagyása a szolgáltató, működtető vagy a beteg áramütés, mechanikai vagy egyéb veszélyhelyzet miatti sérülését eredményezheti.

Þessi þjónustuhandbók er aðeins fánleg á ensku.

- Ef að þjónustuveitandi viðskiptamanns þarfnast annas tungumáls en ensku, er það skylda viðskiptamanns að skaffa tungumálþjónustu.
- Reynið ekki að afgreiða tækið nema að þessi þjónustuhandbók hefur verið skoðuð og skilin.
- Brot á sinna þessari aðvörðun getur leitt til meiðsla á þjónustuveitanda, stjórnanda eða sjúklings frá raflosti, vélrænu eða öðrum áhættum.

AÐVÖRUN

(IS)

**AVVERTENZA
(IT)**

- Il presente manuale di manutenzione è disponibile soltanto in lingua inglese.
- Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione.
- Procedere alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto.
- Il mancato rispetto della presente avvertenza potrebbe causare lesioni all'addetto alla manutenzione, all'operatore o ai pazienti provocate da scosse elettriche, urti meccanici o altri rischi.

警告

(JA)

- このサービスマニュアルには英語版しかありません。
- □ サービスを担当される業者が英語以外の言語を要求される場合、翻訳作業はその業者の責任で行うものとさせていただきます。
- □ このサービスマニュアルを熟読し理解せずに、装置のサービスを行わないでください。
- □□□この警告に従わない場合、サービスを担当される方、操作員あるいは患者□□□さんが、感電や機械的又はその他の危険により負傷する可能性があります。

경고

(KO)

- 본 서비스 매뉴얼은 영어로만 이용하실 수 있습니다.
- 고객님의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객님의 책임입니다.
- 본 서비스 매뉴얼을 참조하여 숙지하지 않은 이상 해당 장비를 수리하려고 시도하지 마십시오.
- 본 경고 사항에 유의하지 않으면 전기 쇼크, 기계적 위험, 또는 기타 위험으로 인해 서비스 제공자, 사용자 또는 환자에게 부상을 입힐 수 있습니다.

**BRĪDINĀJUMS
(LV)**

- Šī apkopes rokasgrāmata ir pieejama tikai angļu valodā.
- Ja klienta apkopes sniedzējam nepieciešama informācija citā valodā, klienta pienākums ir nodrošināt tulkojumu.
- Neveiciet aprīkojuma apkopi bez apkopes rokasgrāmatas izlasīšanas un saprašanas.
- Šī brīdinājuma neievērošanas rezultātā var rasties elektriskās strāvas trieciena, mehānisku vai citu faktoru izraisītu traumu risks apkopes sniedzējam, operatoram vai pacientam.

**ISPĒJIMAS
(LT)**

- Šis ekspluatavimo vadovas yra tik anglų kalba.
- Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba – ne anglų, suteikti vertimo paslaugas privalo klientas.
- Nemėginkite atlikti įrangos techninės priežiūros, jei neperskaitėte ar nesupratote šio ekspluatavimo vadovo.
- Jei nepaisysite šio įspėjimo, galimi paslaugų tiekėjo, operatoriaus ar paciento sužalojimai dėl elektros šoko, mechaninių ar kitų pavojų.

**ADVARSEL
(NO)**

- Denne servicehåndboken finnes bare på engelsk.
- Hvis kundens serviceleverandør har bruk for et annet språk, er det kundens ansvar å sørge for oversettelse.
- Ikke forsøk å reparere utstyret uten at denne servicehåndboken er lest og forstått.
- Manglende hensyn til denne advarselen kan føre til at serviceleverandøren, operatøren eller pasienten skades på grunn av elektrisk støt, mekaniske eller andre farer.

**OSTRZEŻENIE
(PL)**

- Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim.
- Jeśli serwisant klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta.
- Nie próbować serwisować urządzenia bez zapoznania się z niniejszym podręcznikiem serwisowym i zrozumienia go.
- Niezastosowanie się do tego ostrzeżenia może doprowadzić do obrażeń serwisanta, operatora lub pacjenta w wyniku porażenia prądem elektrycznym, zagrożenia mechanicznego bądź innego.

**AVISO
(PT-BR)**

- Este manual de assistência técnica encontra-se disponível unicamente em inglês.
- Se outro serviço de assistência técnica solicitar a tradução deste manual, caberá ao cliente fornecer os serviços de tradução.
- Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica.
- A não observância deste aviso pode ocasionar ferimentos no técnico, operador ou paciente decorrentes de choques elétricos, mecânicos ou outros.

**ATENÇÃO
(PT-PT)**

- Este manual de assistência técnica só se encontra disponível em inglês.
- Se qualquer outro serviço de assistência técnica solicitar este manual noutro idioma, é da responsabilidade do cliente fornecer os serviços de tradução.
- Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica.
- O não cumprimento deste aviso pode colocar em perigo a segurança do técnico, do operador ou do paciente devido a choques elétricos, mecânicos ou outros.

**ATENȚIE
(RO)**

- Acest manual de service este disponibil doar în limba engleză.
- Dacă un furnizor de servicii pentru clienți necesită o altă limbă decât cea engleză, este de datoria clientului să furnizeze o traducere.
- Nu încercați să reparați echipamentul decât ulterior consultării și înțelegerii acestui manual de service.
- Ignorarea acestui avertisment ar putea duce la rănirea deparatorului, operatorului sau pacientului în urma pericolelor de electrocutare, mecanice sau de altă natură.

**ОСТОРОЖНО!
(RU)**

- Данное руководство по техническому обслуживанию представлено только на английском языке.
- Если сервисному персоналу клиента необходимо руководство не на английском, а на каком-то другом языке, клиенту следует самостоятельно обеспечить перевод.
- Перед техническим обслуживанием оборудования обязательно обратитесь к данному руководству и поймите изложенные в нем сведения.
- Несоблюдение требований данного предупреждения может привести к тому, что специалист по техобслуживанию, оператор или пациент получат удар электрическим током, механическую травму или другое повреждение.

**UPOZORENJE
(SR)**

- Ovo servisno uputstvo je dostupno samo na engleskom jeziku.
- Ako klijentov serviser zahteva neki drugi jezik, klijent je dužan da obezbedi prevodilačke usluge.
- Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo.
- Zanemarivanje ovog upozorenja može dovesti do povređivanja serviser, rukovaoca ili pacijenta usled strujnog udara ili mehaničkih i drugih opasnosti.

**UPOZORNENIE
(SK)**

- Tento návod na obsluhu je k dispozícii len v angličtine.
- Ak zákazníkovi poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka.
- Nepokúšajte sa o obsluhu zariadenia, kým si neprečítate návod na obsluhu a neporozumiete mu.
- Zanedbanie tohto upozornenia môže spôsobiť zranenie poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, mechanické alebo iné ohrozenie.

**ATENCION
(ES)**

- Este manual de servicio sólo existe en inglés.
- Si el encargado de mantenimiento de un cliente necesita un idioma que no sea el inglés, el cliente deberá encargarse de la traducción del manual.
- No se deberá dar servicio técnico al equipo, sin haber consultado y comprendido este manual de servicio.

- La no observancia del presente aviso puede dar lugar a que el proveedor de servicios, el operador o el paciente sufran lesiones provocadas por causas eléctricas, mecánicas o de otra naturaleza.
- VARNING (SV)**
- Den här servicehandboken finns bara tillgänglig på engelska. .
 - Om en kunds servicetekniker har behov av ett annat språk än engelska, ansvarar kunden för att tillhandahålla översättningstjänster.
 - Försök inte utföra service på utrustningen om du inte har läst och förstår den här servicehandboken.
 - Om du inte tar hänsyn till den här varningen kan det resultera i skador på serviceteknikern, operatören eller patienten till följd av elektriska stötar, mekaniska faror eller andra faror.
- OPOZORILO (SL)**
- Ta servisni priročnik je na voljo samo v angleškem jeziku.
 - Če ponudnik storitve stranke potrebuje priročnik v drugem jeziku, mora stranka zagotoviti prevod.
 - Ne poskušajte servisirati opreme, če tega priročnika niste v celoti prebrali in razumeli.
 - Če tega opozorila ne upoštevate, se lahko zaradi električnega udara, mehanskih ali drugih nevarnosti poškoduje ponudnik storitev, operater ali bolnik.
- DİKKAT (TR)**
- Bu servis kılavuzunun sadece İngilizcesi mevcuttur.
 - Eğer müşteri teknisyeni bu kılavuzu İngilizce dışında bir başka lisandan talep ederse, bunu tercüme ettirmeye düşer.
 - Servis kılavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.
 - Bu uyarıya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.

IMPORTANT PRECAUTIONS

DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent write "Damage In Shipment" on ALL copies of the freight or express bill BEFORE delivery is accepted or "signed for" by a General Electric representative or hospital receiving agent. Whether noted or concealed, damage MUST be reported to the carrier immediately upon discovery, or in any event, within 14 days after receipt, and the contents and containers held for inspection by the carrier. A transportation company will not pay a claim for damage if an inspection is not requested within this 14 day period.

To file a report:

- Call 1-800-548-3366 and use option 8.
- Fill out the GIQ workflow for any items missing, damaged, OBF/FOI for in process installs:

http://supportcentral.ge.com/ProcessMaps/form_new_request.asp?prod_id=268679&form_id=573167&node_id=1916016&map_id=&reference_id=&reference_type

- Contact your local service coordinator for more information on this process.

CERTIFIED ELECTRICAL CONTRACTOR STATEMENT

All electrical Installations that are preliminary to positioning of the equipment at the site prepared for the equipment shall be performed by licensed electrical contractors. In addition, electrical feeds into the Power Distribution Unit shall be performed by licensed electrical contractors. Other connections between pieces of electrical equipment, calibrations and testing shall be performed by qualified GE Medical personnel. The products involved (and the accompanying electrical installations) are highly sophisticated, and special engineering competence is required. In performing all electrical work on these products, GE will use its own specially trained field engineers. All of GE's electrical work on these products will comply with the requirements of the applicable electrical codes.

The purchaser of GE equipment shall only utilize qualified personnel (i.e., GE's field engineers, personnel of third-party service companies with equivalent training, or licensed electricians) to perform electrical servicing on the equipment.

IMPORTANT...X-RAY PROTECTION

X-ray equipment if not properly used may cause injury. Accordingly, the instructions herein contained should be thoroughly read and understood by everyone who will use the equipment before you attempt to place this equipment in operation. The General Electric Company, Healthcare Group, will be glad to assist and cooperate in placing this equipment in use.

Although this apparatus incorporates a high degree of protection against x-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly exposing themselves or others to radiation.

It is important that anyone having anything to do with x-radiation be properly trained and fully acquainted with the recommendations of the National Council on Radiation Protection and Measurements as published in NCRP Reports available from NCRP Publications, 7910 Woodmont Avenue, Room 1016, Bethesda, Maryland 20814, and of the International Commission on Radiation Protection, and take adequate steps to protect against injury.

The equipment is sold with the understanding that the General Electric Company, Healthcare Group, its agents, and representatives have no responsibility for injury or damage which may result from improper use of the equipment.

Various protective materials and devices are available. It is urged that such materials or devices be used.

IMPORTANT...RADIOACTIVE MATERIAL HANDLING

Only employees formally trained in radioactive materials handling and this equipment are authorized by the GE Healthcare Radiation Safety Officer to use radioactive materials to service this equipment. GE Healthcare Services is required to notify the applicable U.S. state agency PRIOR to any source service event involving pin source handling. See NUC/PET Radioactive material guides for specific instruction or contact your EHS Specialist.

A radiation survey must be performed when a pin source has been removed and replaced. See Radiation Survey Form Instructions or contact your EHS Specialist.
Rev 2 (July 21, 2005)

OMISSIONS & ERRORS

Customers, please contact your GE Sales or Service representatives.
GE personnel, please use the GE Healthcare iTrak Process to report all omissions, errors, and defects in this publication.

REVISION HISTORY

Rev	Date	Reason For Change
1	May 2006	Initial version
2	July 2007	Removed Unreadable Schematics as required a PQR
3	Aug. 21, 2008	Added readable schematics back in as required by PQR and converted the document into the new Direction template. Added Section 7-3 and 7-4 (Testing Emergency OFF/STOP) per FMI 25410. Converted all embedded graphics and reinstalled to reduce the size of the file.
4	Nov 1, 2011	Added UK Warranty Registration informaiton
5	July 27, 2018	BEVCO Panel Updates; Section 6-3 created. Modified 6-1 and 7-3

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1- COMMON INSTRUCTIONS AND REQUIREMENTS

1-1 Scope

This installation specification is a control document for the installation of an Uninterruptible Power System (UPS) unit (B7999ZA) to be used with General Electric Healthcare (GEHC) Computerized Tomography diagnostic imaging systems. This document supports CT Systems, which use the following Power Distribution Units.

NGPDU models:	CT Compact PDU Models:
2326492	2133533
2326492-2	2269902
2326492-3	

It also includes the instructions for interconnection with the system A1 Main Disconnect & UPS Control Panel.

1-2 Overview

This document was designed to guide installation of a 10kVA UPS into BrightSpeed, LightSpeed, or LightSpeed Pro¹⁶ systems using an NGPDU. However, backward compatibility with older systems utilizing CT Compact PDUs may be achieved by following the details shown in the attached schematics.

The UPS powers critical system computer and control functions. It is intended to bridge short power outages and provide time for crossover from normal mains power to emergency power. It is sized to provide at least 10 minutes backup with fully charged batteries.

It is recommended that if a power outage exceeds 5 minutes with no mains or emergency power, the patient should be removed from the table and an orderly shutdown of the system should be initiated. For safe and orderly system start-up & shutdown this UPS kit must be installed with a properly configured A1 Main Disconnect Panel. Use of one of the following GE panels, or equal, specifically designed for use with this kit, is recommended:

- E4502AB / P5051RJ (90A)
- E4502AC / P5051RK (110A)
- E4502AE (125A)
- E4502AF (150A)

Refer to your system Pre-Installation manual for proper selection.

1-2-1 Tools Required

- FE Tool Kit
- LOTO
- Fluke 87 Multi-meter or equal
- Wire Stripper
- Labels

1-2-2 Estimated Manpower & Time Requirements

- 1 FE & 1 Electrician
- 3 hours

1-2-3 Safety Requirements

General Warning Considerations:

The only user operations permitted with the UPS are:

- Starting up and shutting down of the UPS.
- Operating the user interface in the UPS.
- Connecting data interface cables.
- Monitoring the UPS.

NOTICE

It is strongly recommended to have the User's Guide for the UPS available. These operations must be performed according to the instructions in this document and the User's Guide for the UPS being installed. This document covers installation of the POWERWARE 9155-10GE UPS only.

DANGER

THE UPS CONTAINS LETHAL VOLTAGES. THERE ARE NO USER SERVICEABLE PARTS INSIDE THE UPS. SERVICE AND REPAIRS MUST BE PERFORMED BY AUTHORIZED PERSONNEL ONLY.

1-3 Preliminary Instructions

Electrician

An electrician will be required to install a 3/4" conduit between the A1 Disconnect and the computer floor or to the general area of the UPS. The conduit should be terminated in a small wall box. This will be used for the UPS Control cable connecting the UPS and A1 Main Disconnect Panel.

Electrical Requirements

The UPS receives power from the PDU and returns power to the PDU. No other power connections are required. However, low voltage and 120Vac System Emergency Off (SEO) Control and interlock signals are passed between the UPS and A1 Panel.

2-POWERWARE 9155-10GE UPS INSTALLATION

2-1 Overview

Perform the following installations and connections at the UPS.

- UPS Mechanical Preparation
- Site Preparation Verification

Verify the site has been prepared for the UPS installation. Locate the Powerware User's Guide supplied with the UPS kit and refer to Chapter 3 as necessary for additional information.

2-2 Inspection

The UPS is shipped bolted to a wooden pallet as shown below and protected with an outer protective wrap. Visually verify there is no evidence of shipping damage to the packaging or UPS. Remove the outer protective wrap and perform the steps in the following section to unload the UPS from the pallet.



Illustration 1: UPS on Shipping Pallet

2-3 Unloading the UPS from the Pallet

NOTICE

The following information has been extracted from the Powerware User's Guide provided with the UPS. Refer to that document for additional information if necessary.

CAUTION

- The UPS cabinet is heavy. Shipping weight is approximately 170kg (375lb). If unpacking instructions are not closely followed, the cabinet may tip and cause serious injury.
 - Do not install a damaged cabinet. Report any damage to the carrier and contact your Eaton service representative immediately.
 - Do not tilt the UPS cabinet more than 10° from vertical or the cabinet may tip over.
 - DO NOT use the maintenance bypass switch housing as a handle while removing the cabinet from the pallet.
1. Remove the two M10 bolts securing the stabilizing bracket to the pallet
 2. Remove the four M4 screws securing the stabilizing bracket to the cabinet rear panel and remove the bracket. Retain the hardware for later use.

NOTICE

Be sure to retain the stabilizing bracket and hardware for later reassembly onto the cabinet.

3. Remove the front cover from the bottom cabinet to access the front shipping bracket. Press and release the handle latch at the bottom of the cover and then lift the cover up and off the cabinet.
4. Remove the three M10 bolts securing the rear shipping pad to the pallet and remove the shipping pad.
5. Remove the two M10 bolts securing the front shipping bracket and remove the bracket. If needed, adjust the leveling feet to release the bracket.

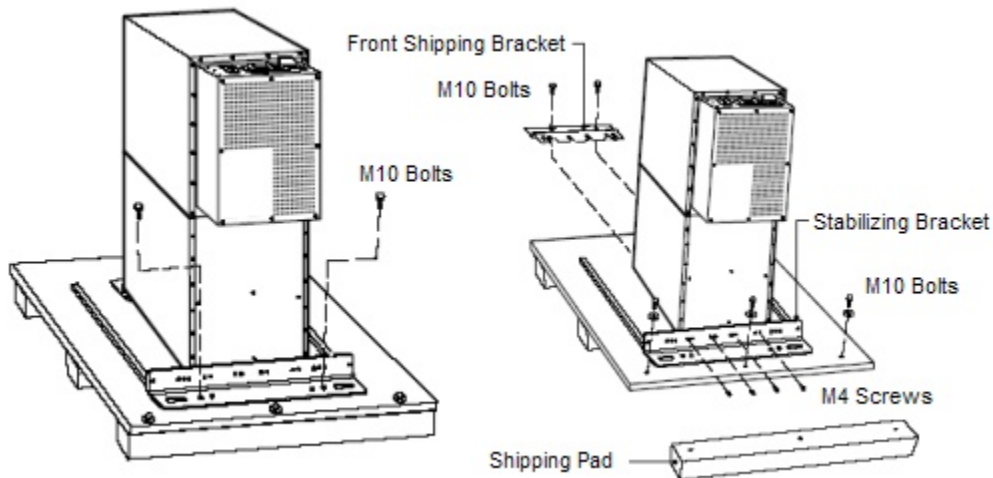


Illustration 2: Shipping Bracket Removal

6. Reinstall the front cover removed in Step 3. Hang the top edge of the cover on the cabinet first, then lower the bottom edge and snap into place.

NOTICE

In the following steps the pallet tilts and acts as a ramp once the UPS is rolled beyond the center of the pallet. Be sure to restrain the UPS as it continues to roll down the pallet / ramp. The front shipping bracket acts as a brake to assist restraining the UPS.

WARNING

Do not stand directly behind the pallet while unloading the cabinet. If unloading instructions are not closely followed, the UPS may roll unexpectedly and cause serious injury.

7. Slowly roll the cabinet toward the rear of the pallet. Once the pallet tilts, continue rolling the cabinet down the pallet until the cabinet touches the floor. If needed, adjust the leveling feet so that the cabinet will roll.
8. With the cabinet supported, slowly pull the pallet away from the cabinet.

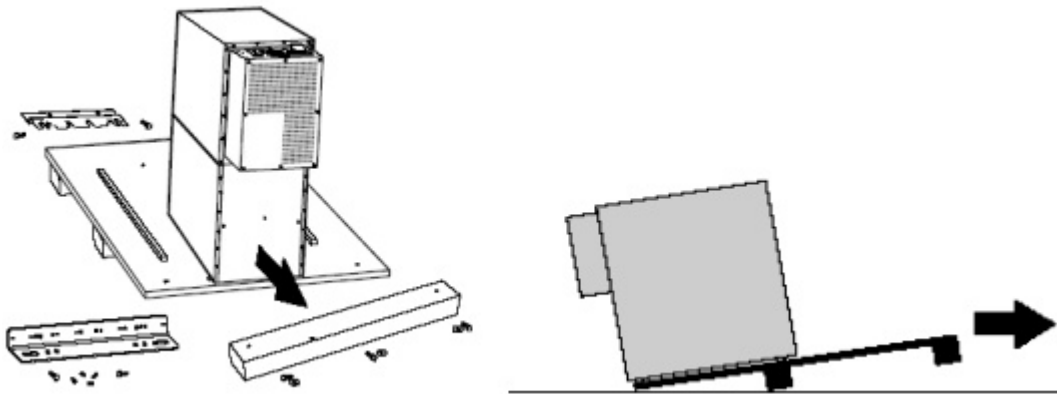


Illustration 3: Removing the Pallet

9. If installing the UPS permanently, retain the hardware for later use; otherwise, discard or recycle the pallet and hardware in a responsible manner.
10. Roll the UPS to its final installation location.
11. Secure it in position by lowering the leveling feet until the UPS is not resting on the casters and it is level.
12. If a more secure installation is desired, the retained hardware may be used to secure the UPS cabinet to the floor.
13. Reinstall the front and rear shipping brackets to the UPS with the angles facing outward.
14. Attach the angle brackets to the floor with contractor-supplied hardware.

2-4 Mobile Applications kit (B7999ZM) - Vibration Mount Assembly

When used in mobile applications the UPS is mounted to a vibration isolation system. The components used are supplied with the Mobile UPS kit, catalog # B7999ZM.

1. Raise the UPS to access the bottom of the unit.
2. Remove the four leveling feet from the bottom of the UPS.

3. Mount two isolator bars (5169868) to the base of the unit as shown below.

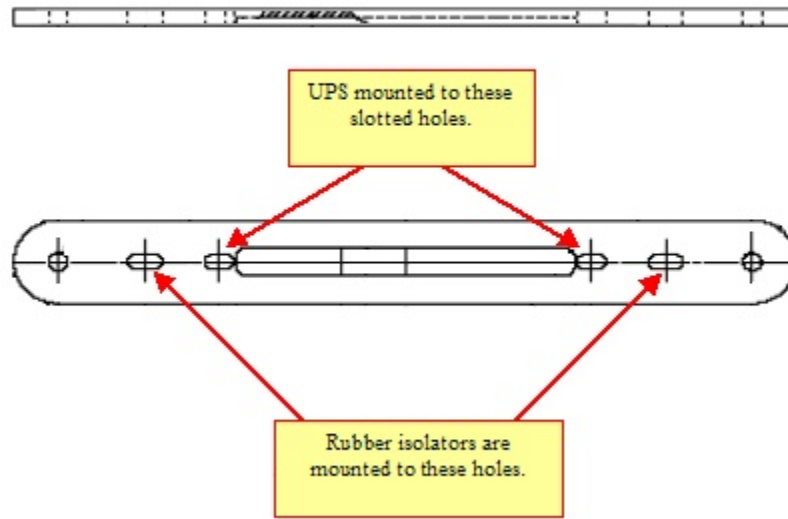


Illustration 4: Isolator Bars (5169868)

4. Locate the two inner slotted holes on the Isolator Bar.
5. Align the two slotted holes of the Isolator Bar to the existing holes on the bottom of the UPS where the leveling feet were removed.
6. Attach the Isolator Bar to the UPS using the hardware shown below & supplied with the Mobile UPS kit.

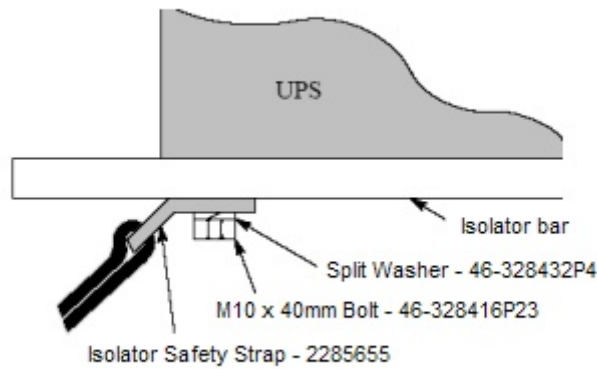


Illustration 5: Isolator Bar Mounting

7. Secure the Safety Strap and isolator bar to the bottom of the UPS using an M10 x 40 mm long Bolt – Part No. 46–328416P23 and a Split Washer – Part No. 46–328432P4.

NOTICE

The Safety Strap is positioned to the side of the Isolator Bar as shown below.

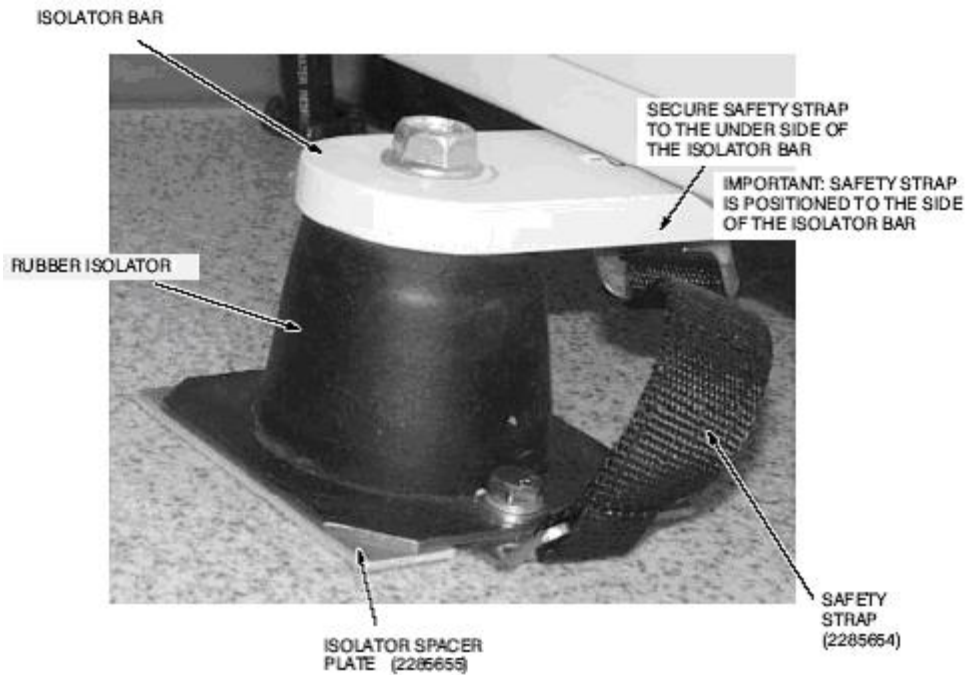


Illustration 6: Safety strap Installation

8. Rubber Isolators – Part No. 2282295 are installed at each end of the Isolator Bar.
9. Align the holes on the top of the Rubber Isolator to the outer holes on the ends of the Isolator Bars.
10. Position the Rubber Isolator mounting hole parallel to the UPS as shown above.
11. Secure using a 1/2–13 x 1–1/4” long Mounting Bolt, Part No. 46–221850P13.
12. Place Isolator Spacer Plate – Part No. 2285655 under each Rubber Isolator. Ensure that the cut out of each Isolator Spacer Plate is positioned towards the unsecured end of the Safety Strap and the Rubber Isolator mounting hole.

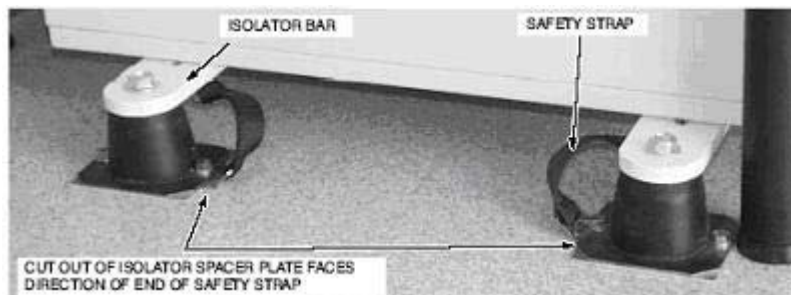


Illustration 7: Safety strap Alignment

13. Place unsecured end of Safety Strap into the cut out of the Isolator Spacer Plate.

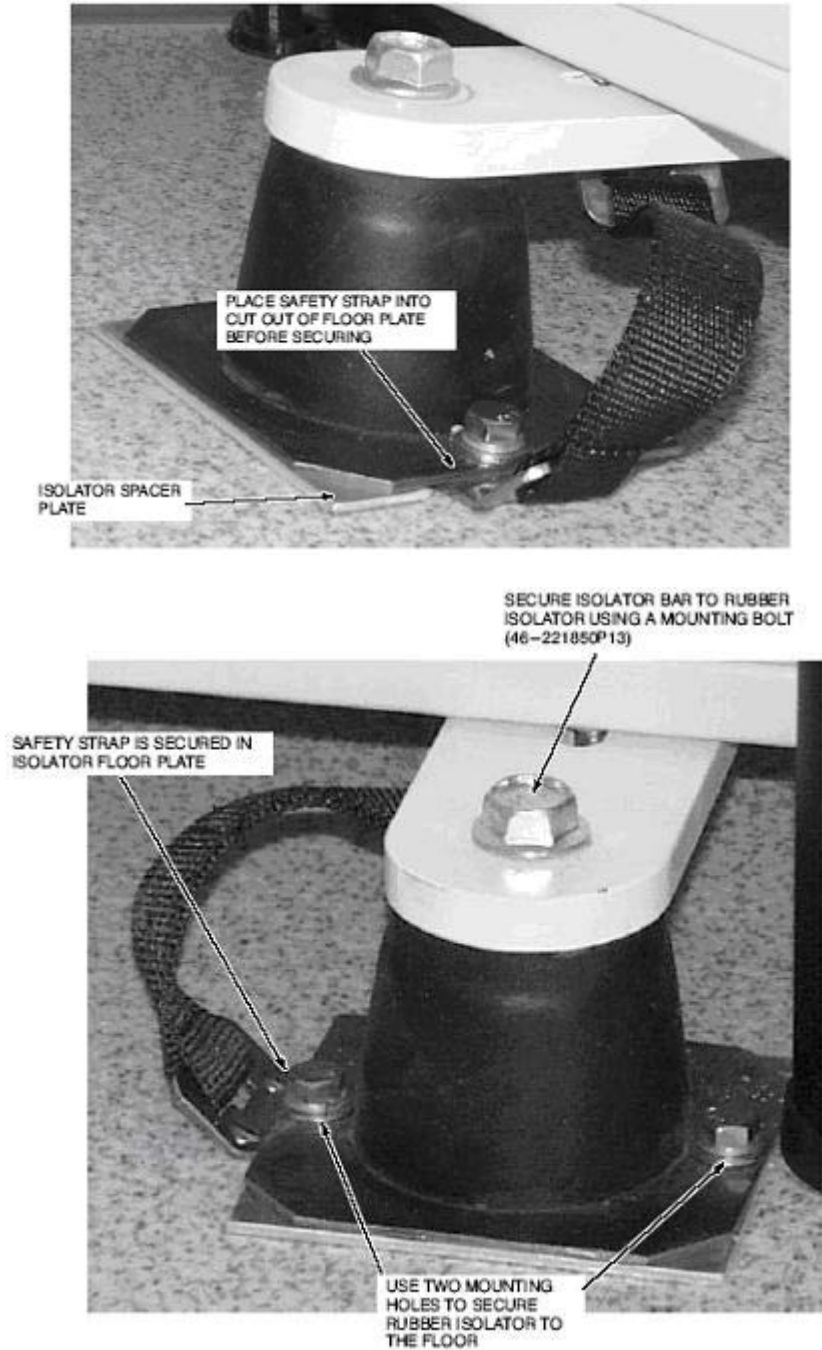


Illustration 8: Safety strap Alignment Details

14. Install each Rubber Isolator to the desired trailer floor location using the proper mounting hardware provided by the trailer vendor.
15. Insert the Safety Strap end under the Rubber Isolator and between the floor and the Isolator Spacer Plate cut out.

3- POWERWARE 9155-10GE UPS CONNECTIONS

3-1 UPS I/O Terminal Compartment

All power and control connections are made in the I/O terminal compartment located on the rear of the UPS.

1. To access the compartment, remove the eight machine screws holding the cover in place and set aside for later use.
2. Verify both the UPS battery and output breakers on the top rear panel are in the “OFF” position.
3. Set the manual bypass switch to the “SERVICE” position.
4. Remove the rear terminal box cover from the UPS.

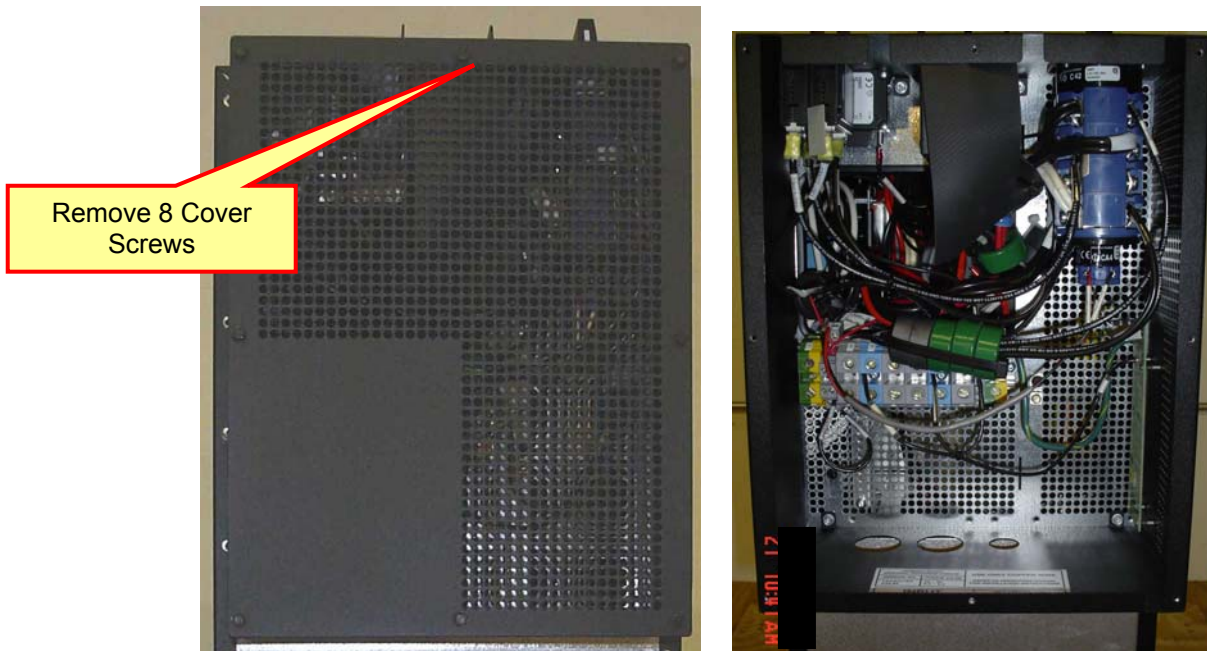
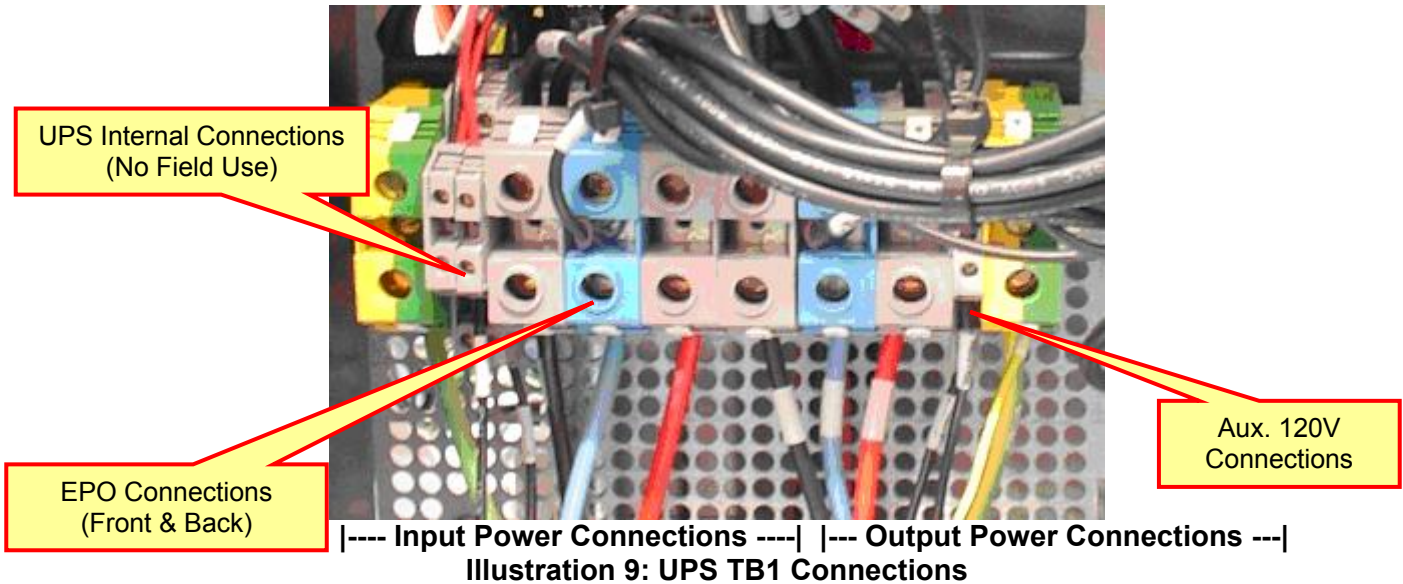


Illustration 8: UPS I/O Terminal Compartment

5. Confirm by multimeter measurement that all terminals on the terminal strip are at 0V with respect to chassis.
6. Install two 3/4” & one 1/2” cord grip fittings in rear of UPS. Use reducer plates and hardware supplied in the kit as required. (Note: Enlarge small if required for cord grip installation.)
7. UPS Input Power Cable from PDU
8. Connect UPS Input Power Cable (P/N 5169294) as follows:
9. Pull cable end labeled “To UPS TB1” through the left most 3/4” cord grip in the back of the UPS, to TB1.
10. Connect the GREEN/YELLOW wire to “GND”.
11. Connect the BLACK wire to “L1”.
12. Connect the BLUE wire to “NEUT”.
13. Connect the ORANGE wire to “L2”.
14. If present, cut off RED wire at cable jacket.
15. Securely tighten the cord grip onto the input cable.



3-2 UPS Output Power Cable to PDU

Connect UPS Output Power Cable (P/N 5169294-2) as follows:

1. Pull cable end labeled "To UPS TB1" through the right 3/4" cord grip in the back of the UPS, to TB1.
2. Connect the BLACK wire to "L1".
3. Connect the BLUE wire to "NEUT".
4. Connect the ORANGE wire to "L2".
5. Connect the GREEN/YELLOW wire to "GND".
6. If present, cut off RED wire at cable jacket.
7. Securely tighten the cord grip onto the output cable.

3-3 UPS Control Cable to A1 Main Disconnect / UPS Control Panel

Referring to Illustration 9 above, connect the UPS Control cable (P/N 5169224) as follows:

1. Route the cable end labeled "To UPS" through the 1/2" cord grip in the bottom of the UPS Terminal Box.
2. Connect the GREEN/YELLOW (GND) and SHIELD wires to the grounding terminal "GND".
3. Remove the existing jumper connected between TB1-2A1 & 2A2, if present.
4. Connect the BLK 1 (EPO_1) wire to TB1-2A1.
5. Connect the BLK 2 (EPO_2) wire to TB1-2A2.
6. Connect the BRN (AUX 120) wire to TB1-8AL.
7. Connect the BLU (NEUT) wire to TB1-8AN.
8. Securely tighten the cord grip onto the control cable.

When all connections are secure, re-install the terminal box cover at the rear of the UPS.

4- POWER DISTRIBUTION UNIT

4-1 NGPDU Connections

This UPS kit has been specifically designed for compatibility with BrightSpeed, LightSpeed 5.x, or LightSpeed Pro¹⁶ CT systems. These systems utilize an NGPDU. Model numbers currently in use are:

- 2326492
- 2326492-2
- 2326492-3

The same interconnection information applies to all listed NGPDU models. If necessary, refer to the appendices for further interconnect information

NOTICE

Use all required applicable safety Lockout/Tagout procedures and processes.

4-2 UPS Input Power Cable

1. If not done previously, shutdown system software and turn off the mains input power to the system.
2. Remove the top and front covers of the PDU.
3. Remove all three jumper wires at terminal strip TS4, terminals 1 to 6, 2 to 7, & 3 to 8. Place the jumpers in the base of the PDU for future use.
4. Route the UPS Input Power Cable (P/N 5169294) into the PDU and up through the indicated cable clamp in the bottom pan. Refer Illustration 10 below.
5. Cut off the RED wire at the cable jacket and set aside the cutoff piece.
6. Connect the BLACK wire to TS4-1
7. Connect the ORANGE wire to TS4-3.
8. Connect the BLUE wire to TS4-4.
9. Connect the GREEN/YELLOW wire to TS4-5.
10. Using the RED wire set aside above, cut to length required and install as a jumper between TS4-2 and TS4-7. Alternatively, you may re-use the original jumper removed in step 3 above.

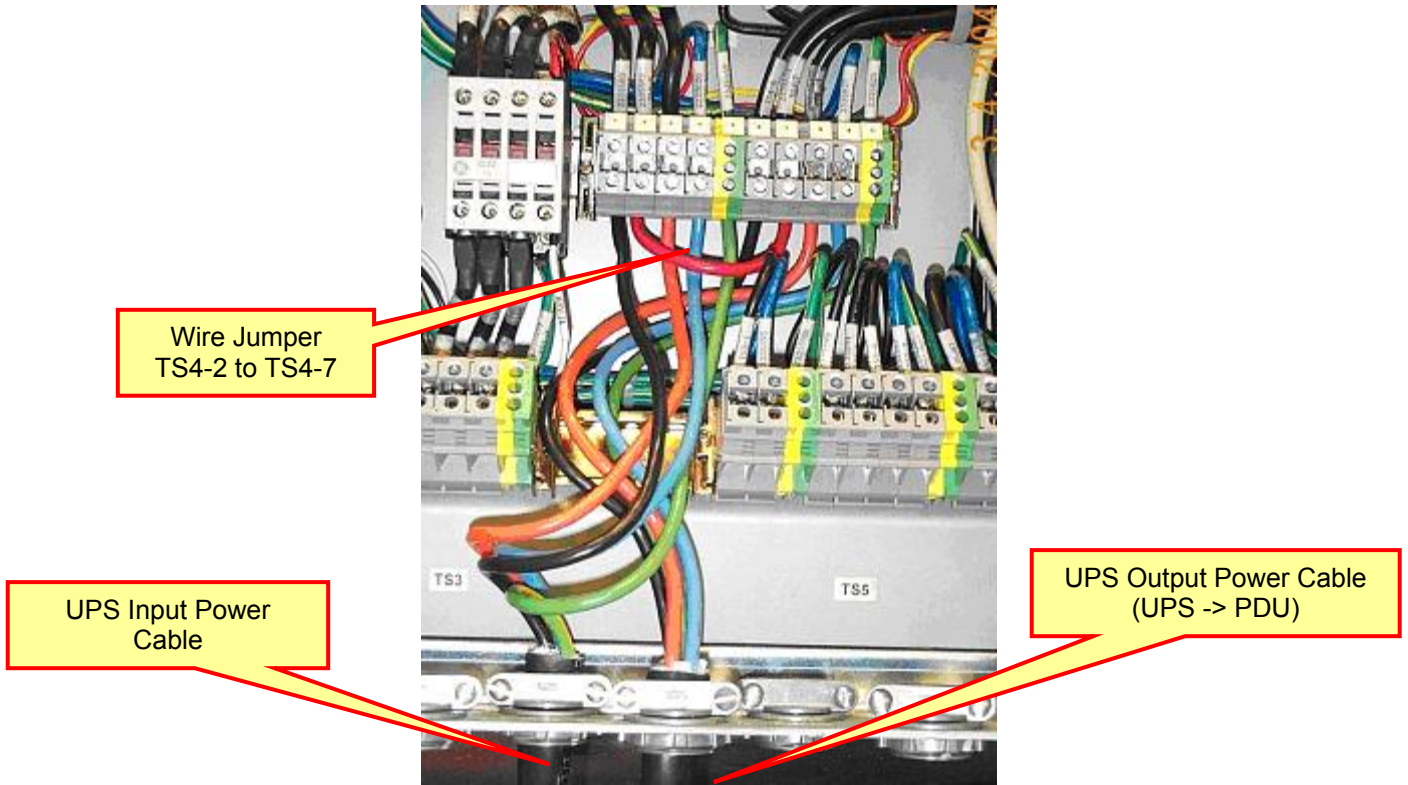


Illustration 10: NGPDU Connections

4-3 UPS Output Power Cable

1. Route the UPS Output Power Cable (P/N 5169294-2) into the PDU and up through the indicated cable clamp in the bottom pan.
2. Cut off the RED wire at the cable jacket and discard.
3. Connect the BLACK wire to TS4-6
4. Connect the ORANGE wire to TS4-8.
5. Connect the BLUE wire to TS4-9.
6. Connect the GREEN/YELLOW wire to TS4-10

NOTICE

Do not re-install the PDU covers at this time. Wait until after the system start-up procedures have been completed.

5- CT COMPACT PDU CONNECTIONS

This UPS kit may be used with older LightSpeed 1.x-4.x CT systems. These systems utilize a CT Compact PDU, model numbers in use are:

- 2133533
- 2269902

The interconnection of the UPS and PDU is similar to the NGPDU interconnect described above. Follow terminal number and detailed interconnection information as shown in the accompanying schematics. Re-label cables as indicated on the schematic appropriate for the PDU model being used.

6- A1 DISCONNECT PANEL

6-1 A1 Main Disconnect Panel

For safe and orderly system start-up & shutdown this UPS kit must be installed with a properly configured A1 Main Disconnect Panel. Use of one of the following GE panels, or equal, specifically designed for use with this kit, is recommended. Refer to your system Pre-Installation manual for proper selection. Refer to section 6-3 for important information regarding the following USCAN panels: E4502BB, E4502BC, E4502BE, E4502BF, E4502BG and EU Panels: E45021BA, E45021BB, E45021BC, and E45021BG.

- E45021BA / E46001LM / E46001RM (80A)
- E4502AB / P5051RJ / E4502BB (90A)
- E4502AC / P5051RK / E4502BC (110A)
- E4502AE / E4502BE / E45021BB / E46001RN / E46001AC (125A)
- E4502AF / E4502BF (150A)
- E45021BC/ E46001RZ / E46001AD (160A)
- E4502BG (175A)
- E45021BG (200A)



Illustration 11a: Typical A1 Panel Front View & Interior View.

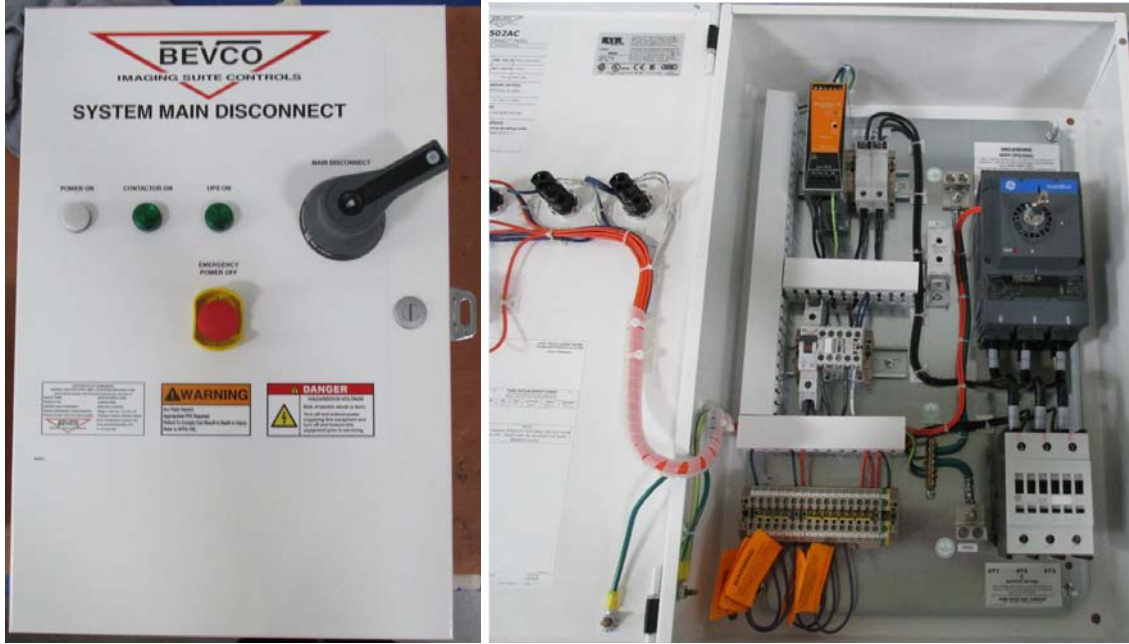


Illustration 11b: Typical US BEVCO A1 Panel Front View & Interior View.

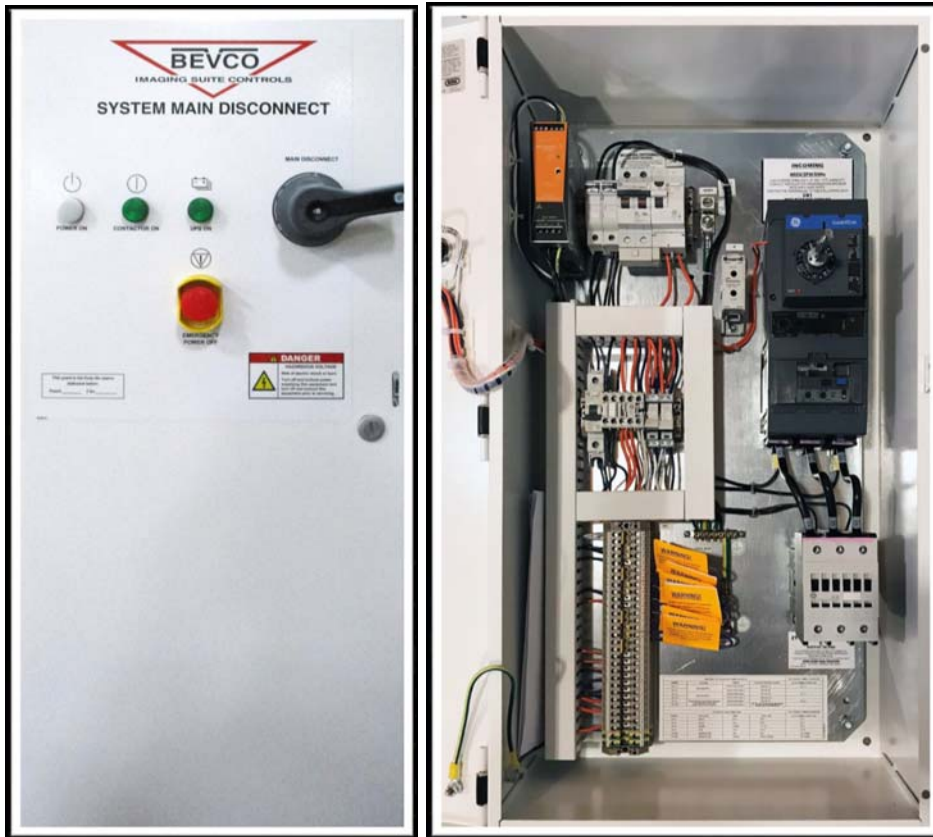


Illustration 11c: Typical EU BEVCO A1 Panel Front View & Interior View.

⚠ DANGER

THE FOLLOWING PROCEDURES ARE ACCOMPLISHED INSIDE THE A1 DISCONNECT PANEL. MAINS VOLTAGE MAY STILL BE PRESENT EVEN WITH THE MANUAL SWITCH PULLED. LOCATE THE FEEDER DISCONNECT TO THE A1 PANEL AND SHUT OFF MAIN POWER THERE. **USE PROPER LOCK-OUT / TAG-OUT PROCEDURES.** TEST THE A1 DISCONNECT TO VERIFY THAT ALL POWER IS OFF BEFORE PROCEEDING.

6-2 UPS Control Cable Connections to A1 Panel

An electrician will be required to install a 3/4" conduit or raceway between the A1 Disconnect and the floor in the general area of the UPS. Conduit should be terminated in a small wall box. This route will be used for the UPS Control cable connecting the UPS and A1 Main Disconnect Panel.

NOTICE

Verify the feeder to the A1 Panel has been shut off and properly locked out.

⚠ CAUTION

Remove the factory-installed jumper between terminals TB1-7 and TB1-9 in the A1 Panel (Main Disconnect) if present. This is necessary to prevent damage to the UPS EPO Circuitry.

1. Install a 1/2" cord grip (supplied with the kit) in the wall box or the base of the A1 Panel.
2. Route the UPS Control Cable (P/N 5169224) from the UPS through the conduit or raceway to the A1 Disconnect Panel.
3. Connect the BLK 1 wire to terminal TB1-7 (TB1-11 BEVCO) in the A1 Panel.
4. Connect the BLK 2 wire to terminal TB1-8 (TB1-13 BEVCO) in the A1 Panel.
5. Connect the BRN wire to terminal TB1-9 (TB1-14 BEVCO) in the A1 Panel.
6. Connect the BLU wire to terminal TB1-10 (TB1-15 BEVCO) in the A1 Panel.
7. Connect the GREEN/YELLOW (GND) and SHIELD wires to Ground Terminal (GND) in the A1 Panel. There is ONETB1-GND for USCAN and TWO TB1-GND for EU in the BEVCO Panels.

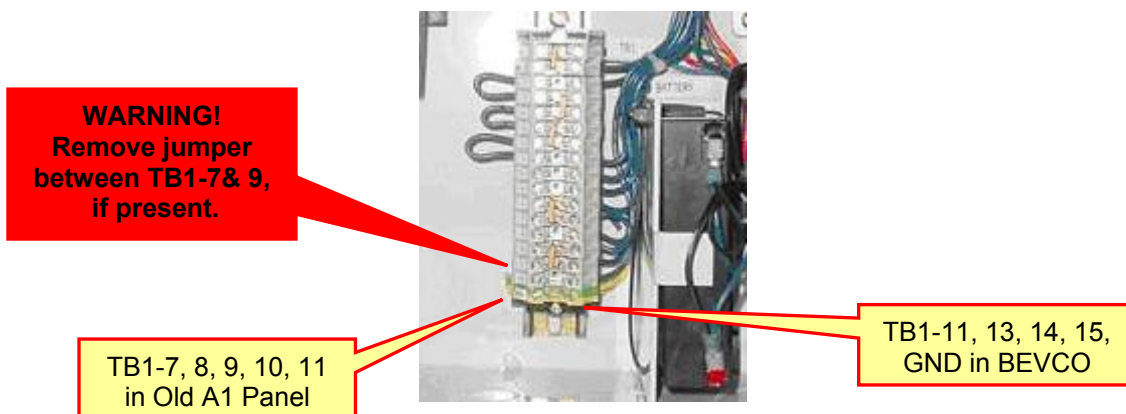


Illustration 12: A1 Panel TB1 Terminals

6-3 UPS Control Cable to A1 Main Disconnect / UPS Control Panel for Bevco MDP

The following applies to these A1 panels: E4502BB, E4502BC, E4502BE, E4502BF, E45021BA, E45021BB, and E45021BC.

An electrician will be required to install a 3/4" conduit or raceway between the A1 Disconnect and the floor in the general area of the UPS. Conduit should be terminated in a small wall box. This route will be used for the UPS Control cable connecting the UPS and A1 Main Disconnect Panel.

NOTICE

Verify the feeder to the A1 Panel has been shut off and properly locked out.

Instead of 2 wires being run to each Remote Emergency Power Off (EPO) switch, as is shown in the site drawings, 4 wires need to be run to each Remote EPO. One Remote EPO switch is included with the Bevco panel, more can be ordered from Bevco directly, if needed. **Note: Any Remote EPO switch used with the Bevco panel is required to be a latching twist-to release style switch with two normally closed contacts.**

Typical installations will connect the Remote EPO switch as follows:

1. Remove Jumper 1 and Jumper 4 from the panel to connect the remote EPO
2. Connect one contact of the remote EPO to TB1 pins 4 and 5 in the MDP (these pins are the EPO for the panel)
3. Connect the other contact to TB1 pins 8 and 9 in the MDP (these pins are the EPO for the partial system UPS)

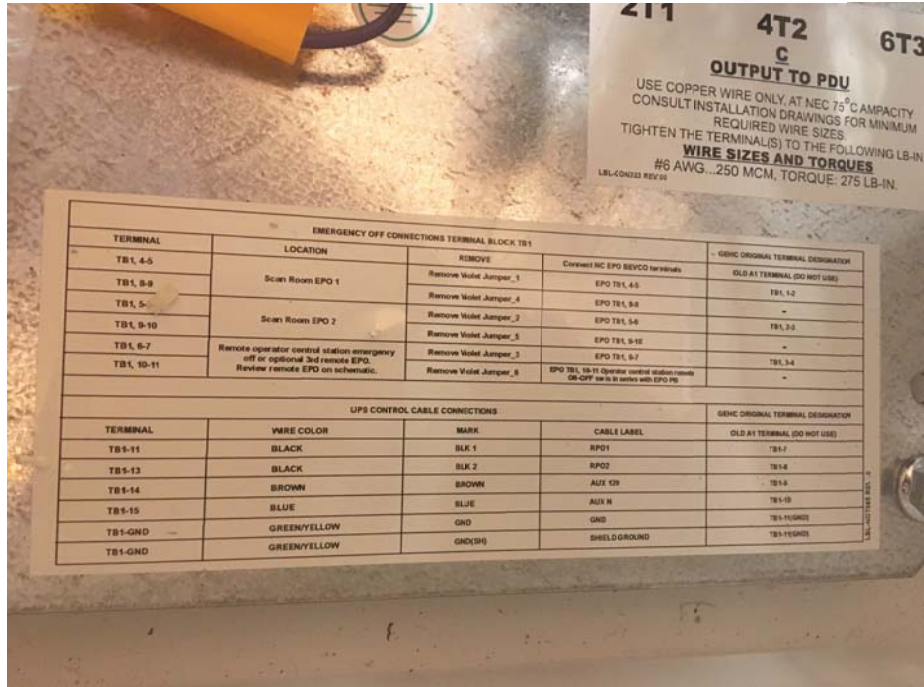
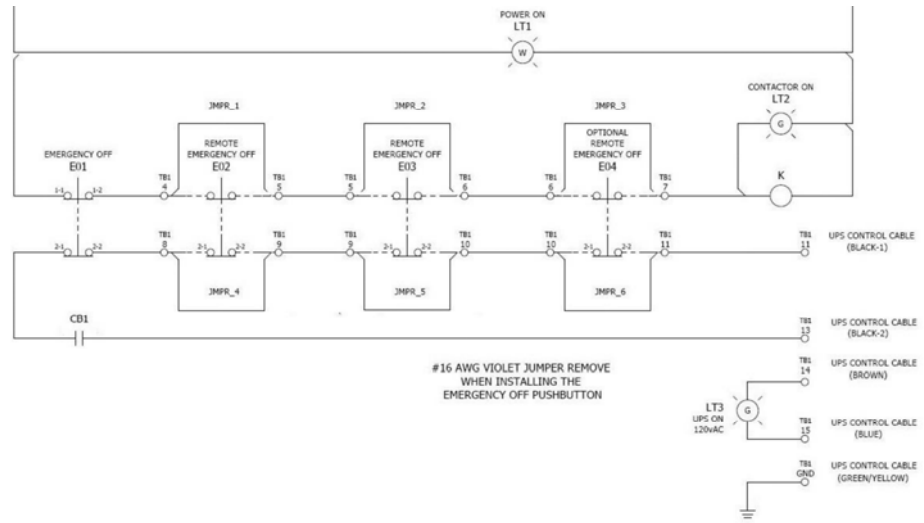


Illustration 13: Bevco A1 Panel EPO Circuit and Label

For wiring the UPS control cable, follow these steps:

4. Install a 1/2" cord grip (supplied with the kit) in the wall box or the base of the A1 Panel.
5. Route the UPS Control Cable (P/N 5169224) from the UPS through the conduit or raceway to the A1 Disconnect Panel.
6. Wire the Bevco MDP to the following table:

Wire function/color	New MDP Terminal
BLK1 (EPO_1/RPO1)	TB1-11
BLK2 (EPO_2/RPO2)	TB1-13

BRN (AUX 120)	TB1-14
BLU (NEUTRAL)	TB1-15
GREEN/YELLOW (GND) and Shield	TB1-GND

6-4 A1 Panel Voltage Selection

(NOT REQUIRED FOR BEVCO PANEL). Verify the A1 Panel Control Transformer is configured for the correct nominal mains voltage. The A1 panel ships from the factory configured for 480V input. Reconnect for 400V if required.

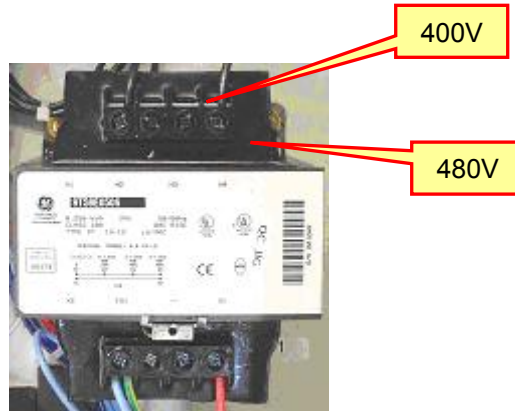


Illustration 14: A1 Panel Control Transformer

6-5 A1 Panel Labeling

A pre-printed adhesive label is provided in the UPS kit titled “SYSTEM OFF PROCEDURE” and “SYSTEM START-UP PROCEDURE”. Attach the label to the front of the A1 Panel as indicated below.



Illustration 15: A1 Panel Labeling

6-6 Non-Standard A1 Main Disconnect Panel

Although designed specifically for use with the previously referenced A1 panel catalog items, under certain conditions, this UPS kit may be used with some alternate A1 Panels. Refer to the appendices for further interconnect information.

The following configurations are **NOT** intended for new system installations, but they are listed here to support UPS upgrades / replacements in installed base systems only. Alternate A1 panel configurations include:

- E4502AD (When modified by application of GE Supply kit GESAD2ABKIT1)
- E4502AD or FCA190-A (When coupled to UPS Control Panel 2143207, previously sold as part of UPS kit B7999PS. Note - Field modification of 2143207 required)
- 2385535 (previously sold as part of mobile kit B7999PY)

The interconnection of the UPS and these A1 Panels or UPS Control Panel is not described in detail here. Refer to the detailed interconnection information as shown in the accompanying schematics. Re-label cables as indicated on the schematic appropriate for the configuration being used.

7- START UP / SHUTDOWN PROCEDURES

NOTICE

GEHC installation team and service employees are authorized to perform initial power-up of the Powerware 9155-10GE UPS. It is not necessary to call a Powerware representative for initial start-up. However, if you prefer or have difficulty with the UPS start-up procedure, you may arrange for a Powerware service technician to perform start-up, at no cost. The Powerware contact number in the US is 1-800-843-9433. For international service refer to the contact information provided with the Powerware documentation.

7-1 Start-Up: Powerware 9155-10GE

7-1-1 Automatic Configuration Mode

Automatic configuration is performed during UPS startup. The UPS will automatically sense the input voltage and frequency and match its output to the mains input power. **No additional frequency or voltage configuration set-up is required.**

7-1-2 Auto Re-start

The UPS has been configured at the factory to automatically start-up whenever it senses input power. If the UPS does not automatically start, Powerware service should be contacted to correct the problem and verify proper operation.

7-1-3 Initial Start-up Sequence

The following procedure should be used to power up the system up for the first time after installing the UPS kit. Verify that all connections are properly made and all safety covers are properly in place. Leave the PDU front cover off. Turn OFF the Console power switch. This keeps the system computers from needlessly booting up until proper UPS system operation is verified.

NOTICE

It is strongly recommended to have the User's Guide for the UPS available.

Check the following before proceeding to power up the system:

- Mains input power was turned OFF during installation.
- Restore the power at the feeder panel supplying the A1 Disconnect Panel after finishing the A1 connections procedure.

1. Verify that the system is ready to receive power and all persons are clear of the machine.
2. Set the Manual By-Pass Switch to the "Service" position.
3. Verify the Load and Auxiliary circuit breakers on the UPS are in the "ON" position and the Battery breaker is "OFF".
4. Verify the 'POWER ON' light on the Main Disconnect Panel (A1) is illuminated indicating mains power is available.
5. Verify the Key Switch in the A1 panel is in the "ON" position and none of the room SEO buttons has been latched open.
6. Momentarily press the "START" button on the Main Disconnect Panel.
7. Verify 'CONTACTOR ON' and "UPS ON" lights on the Main Disconnect Panel are illuminated.
8. Re-set the UPS Battery breaker to the "ON" position.
9. Verify both the UPS and CT scanner begin to power up.
10. After approximately 30 seconds, the UPS should indicate electronic bypass mode. The UPS should display a flashing green "Inverter ON" indicator and a steady yellow "Bypass ON" indicator.
11. When the yellow Bypass indicator is ON steadily, switch the Manual By-Pass Switch to the "UPS" position.
12. After a few seconds the green "Inverter ON" indicator should switch to a steady "ON" and the Bypass indicator should turn off.

NOTICE

If the UPS fails to power up as indicated refer to the Powerware 9155-10GE UPS manual (10KVA) Users Guide.
<http://powerquality.eaton.com/Products-services/Backup-Power-UPS/9155.aspx?cx=5&GUID=9B9DF1ED-8D51-48B3-9DB1-184AA3094F90>

13. Turn ON the Console power switch and allow software to boot.

NOTICE

The UPS is now providing 120VAC power to the Table, Gantry and Console. In the event of a momentary mains power loss, scanning will be inhibited or aborted. However, the UPS will continue to provide power to the Table, Gantry & Console for at least 10 minutes. The UPS will "beep" occasionally, letting you know that it is on BATTERY BACKUP. If mains power is restored prior to shutting down the CT system, the UPS and system will automatically return to normal operation.

7-1-4 UPS Alarm Conditions

Input Phase Rotation Condition: If the UPS does not start properly and the display indicates a "Phase Rotation" message, there is an input phase error. Two of the main input phases must be interchanged at the **PDU MAINS INPUT** Terminal Block. Do **NOT** reverse any of the connections at the UPS or PDU TS4 Interface.

Other Alarms

Refer to the 9155-10GE User's Guide for a detailed listing of operational and diagnostic information for the UPS.

7-2 Shut-Down Procedure

Normal System Shutdown

To shut down the entire system, do the following:

1. Perform a software shutdown.
2. Turn off the Console power switch.
3. Press any room System Emergency Off (SEO) button or press the Emergency OFF button on the A1 Main Disconnect Panel.
4. To re-start the system, follow the Start-Up instructions in section 7-1-3.
5. UPS Shutdown Only – Manual Bypass
6. To shut down the UPS only while leaving the system operational, do the following:
7. Turn the Manual Bypass switch to the BYPASS position.
8. The UPS should automatically shut down and trip its battery breaker.
9. Verify the UPS battery circuit breaker CB1 is tripped to the “OFF” position.

⚠ DANGER

Although the UPS stops supplying power and is disconnected internally from its batteries, system power still passes through the UPS cables while in bypass mode. Use caution when servicing.

7-3 Testing the System Emergency OFF (SEO) function of the UPS

This function removes power to the entire system including the UPS.

Test the function of the UPS mode of operation as follows:

1. Perform a software shutdown. (Step only necessary if the system is booted up and fully operational).
2. At the UPS make sure the manual By-Pass switch is set to the “UPS” position.
3. Make sure the green “Inverter ON” indicator is “ON”.
4. Make sure that the By-Pass indicator is OFF.
5. Press any room emergency OFF button or at the A1 main Disconnect Panel. (SEO)
6. Verify that the UPS shuts off as well as the system.
 - Make sure that UPS applies no backup power to the CT system. The power to CT Table, Console and Gantry should turn off and stay off.
7. Repeat steps 5 and 6 for **EACH** SEO switch that is hooked up in the room.

⚠ DANGER

EACH EPO SWITCH REQUIRES 4 WIRES IF A BEVCO A1 PANEL (SEE SECTION 6) IS USED. FAILURE TO HAVE THE 4 WIRES WILL RESULT IN THE UPS STAYING ON AND POWERING THE SYSTEM

8. Restore power using section 7-1-3.

7-4 Testing the Emergency STOP function of the UPS

This function disables Gantry motion and X-Ray Generation. The UPS will be ON.

1. Perform a software shutdown. (Step only necessary if the system is booted up and fully operational).
2. At the UPS make sure the manual By-Pass switch is set to the “UPS” position.
3. Make sure the green “Inverter ON” indicator is “ON”.
4. Make sure that the By-Pass indicator is OFF.

5. Press any Emergency STOP on the system (Console, Gantry, Table).
6. Check the following:
 - a. The UPS should indicate that it is operating and providing power to the system and should be indicating that there was a loss of incoming power.
 - b. Verify that the system Console power remains ON.
 - c. Verify that the Table can be lowered, by slightly lowering it by pressing the “Down” foot pedal.
7. At the (A1) Main Disconnect panel, verify the ‘POWER ON’ light on the Main Disconnect Panel (A1) is illuminated indicating mains power is available.
8. Verify that none of the room System Emergency OFF (SEO) buttons have been latched open.
9. Momentarily press the “START” button on the Main Disconnect Panel.
10. The UPS should indicate that incoming power is providing power to the system.
11. After a few seconds the green “Inverter ON” indicator should switch to a steady “ON” and the Bypass indicator should turn off.

If during this test, the power to the system is interrupted and the UPS does not function, as it should, troubleshoot the problem and repeat steps 1 through 10 of this section, until the UPS can successfully maintain system power.

NOTICE

The system cannot be turned over to the Customer unless the UPS has been tested and has been determined to be fully functional.

12. To re-start the system:
 - d. Verify that all persons are clear of the scanner gantry and table.
 - e. Turn off the power at the console.
 - f. Wait at least 1 minute.
 - g. Turn ON the power switch at the system Console. The system will auto-boot to a normal operational condition.

7-5 Final Steps

1. Re-install all safety shields and covers on the UPS and PDU.
2. **UPS Warranty Registration**
Fill out and mail the Powerware Warranty Registration card or register the UPS on-line at www.warranty.powerware.com.

UPS Warranty Registration – UK

Upon installation GEHC local service must contact Eaton to declare model, serial number and date of installation.

Eaton Power Quality Ltd
221 Dover Road
Slough
Bershire
SL1 4RF
UK
Tel: +44 (0) 1753 608 700
F +44 (0) 1753 608 995

8- APPENDIX A

A-1 Applicable Documents

The following documents provide reference information for the UPS Interconnect Kit.

- GEHC Reference Documents 5169128SCH UPS Interconnect Schematic
- 5169350PSP 2Ph, 10kVa UPS Purchase Specification
- 2326492SCH NGPDU Schematic
- 2391993PSP Purchase Specification for A1 Main Disconnect & UPS Control Panel
- 5169123ADW Assembly Specification for the UPS Hardware Kit
- 46-015900 Global Documentation Standard
- 46-131001 Applied Practices (Assemblies)
- 46-170700 Applied Practices (Portions)

A-2 Supplier Documents

POWERWARE 9155-10GE User's Guide

A-3 Industry Standards

NFPA-70 (2005) National Electrical Code (USA)

A-4 Field Replaceable Units (FRU) Listing

The following listing identifies the Field Replaceable Units (FRUs) associated with this assembly. Vendor part numbers are included as examples only. For the complete list of approved vendors for each item, see the associated Manufacturer's Equivalent on GEHC ePDM system.

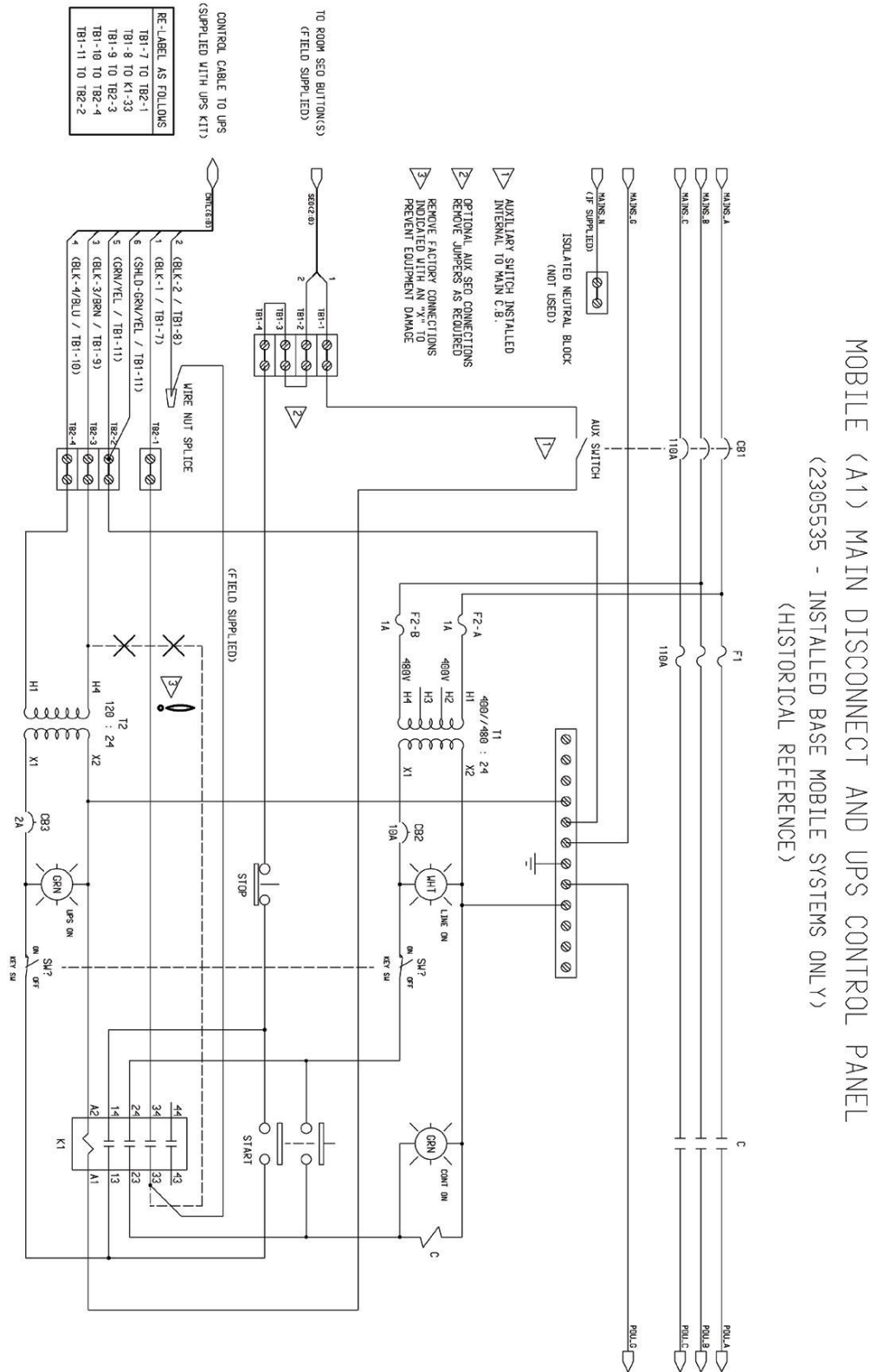
GEMS Part #	Name / Description	Vendor	Vendor P / N
5169350	PW9155-10GE UPS	POWERWARE	G410110000
5169123	Hardware Kit	GE Supply	5169123

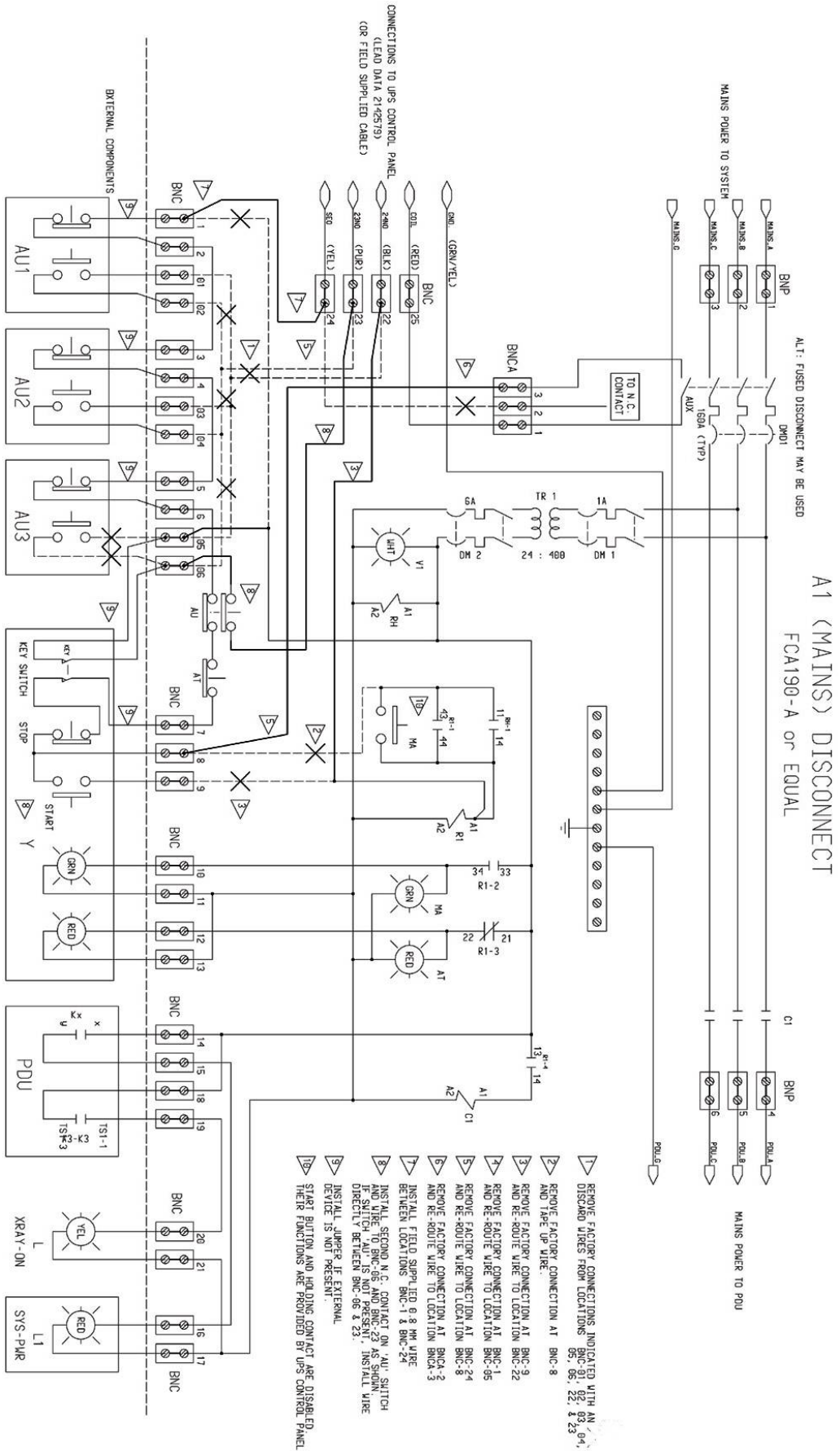
9-APPENDIX B – PARTS DISPOSITION AND RETURN

The customer has purchased this upgrade. Legally all new parts added and the old parts removed are the property of the customer. However, please ask the customer if they would like to keep the old parts, or have you dispose of the old parts.

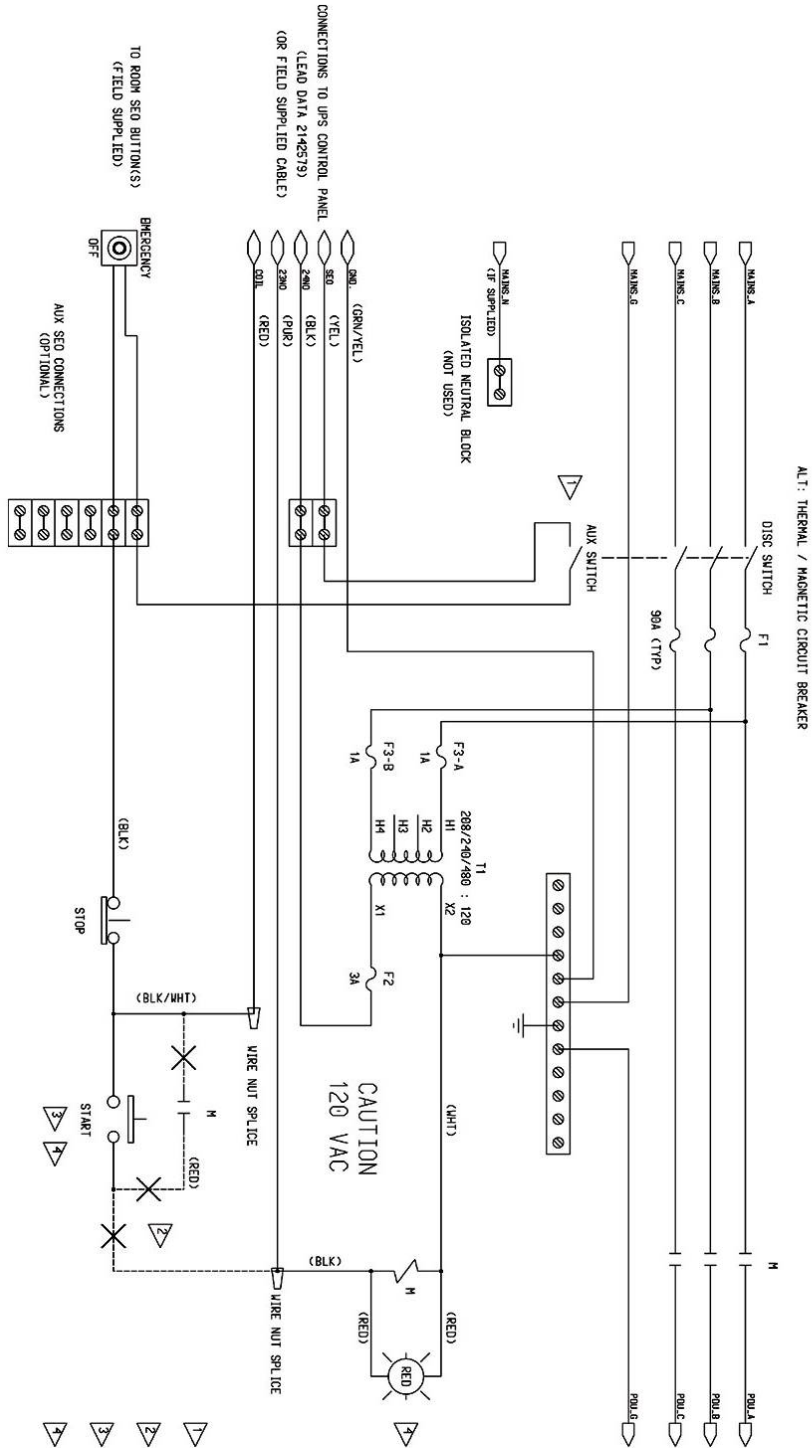
10- APPENDIX C- 5169128SCH UPS INTERCONNECT SCHEMATICS

Refer to the following pages for schematics and interconnect drawings.



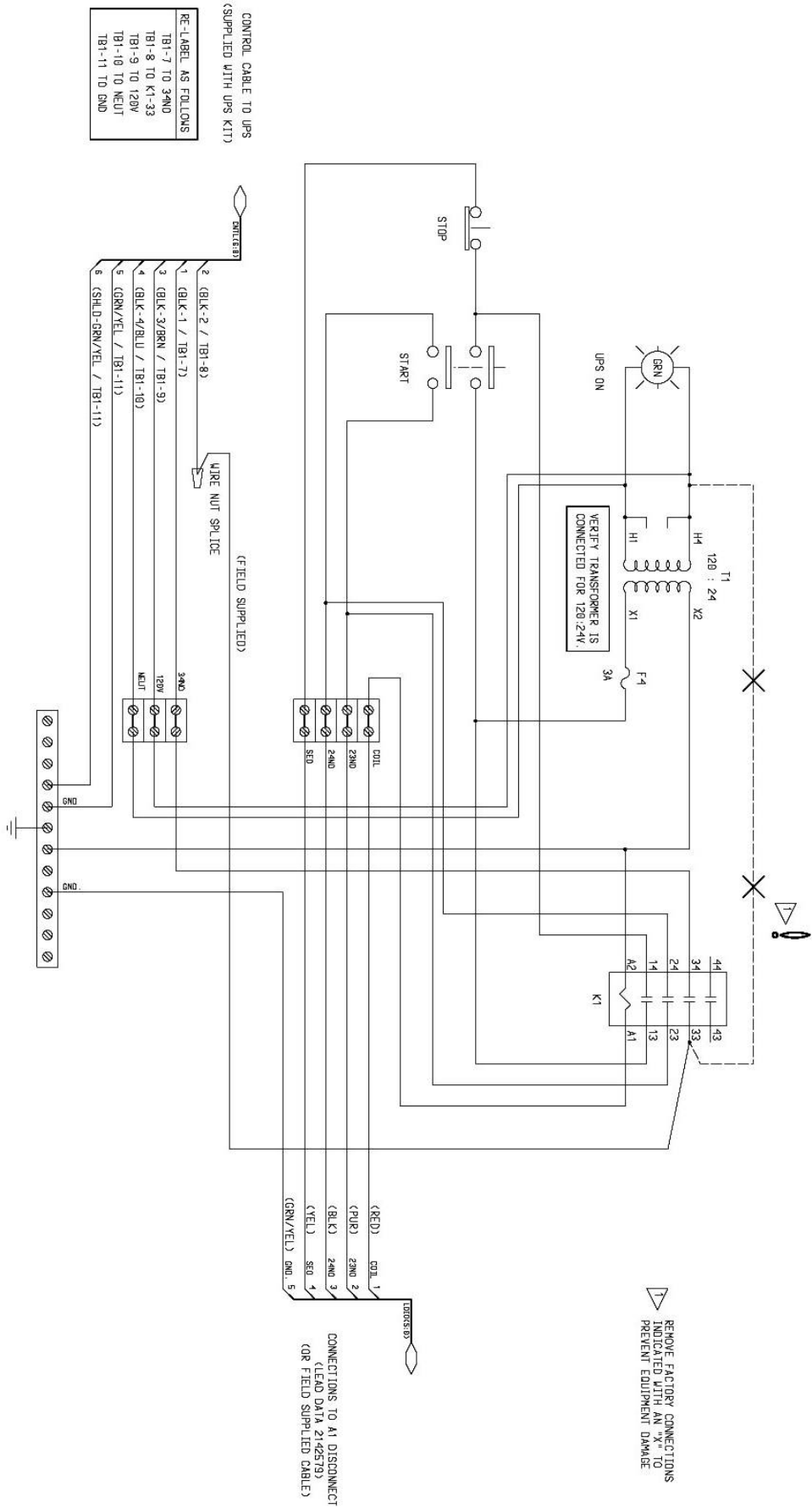


A1 (MAINS) DISCONNECT
E4502AD or EQUAL



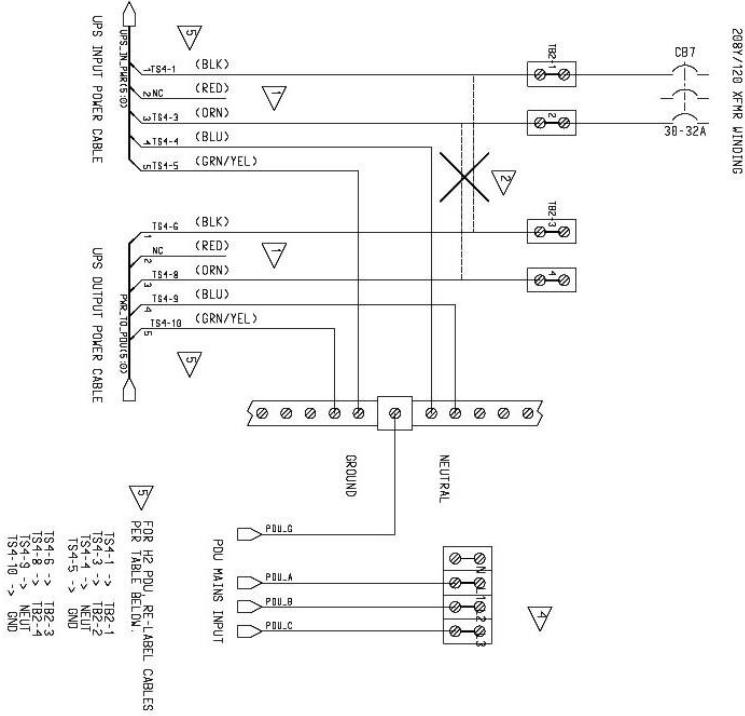
- ▽ INSTALL, NORMALLY OPEN AUXILIARY SWITCH ON TO MAIN DISCONNECT DEVICE
- ▽ REMOVE FACTORY CONNECTIONS INDICATED WITH AN "X"
- ▽ START BUTTON AND HOLDING CONTACT DISABLED. FUNCTION PROVIDED BY UPS CONTROL PANEL.
- ▽ PANELS BUILT AFTER NOVEMBER 2002 USE COVER MOUNTED PUSHBUTTONS AND LIGHT INDICATORS. REFER TO DETAILED REMARK INSTRUCTIONS IN MANUAL.

UPS CONTROL PANEL
(2143207 - INSTALLED BASE SYSTEMS ONLY)
(HISTORICAL REFERENCE)

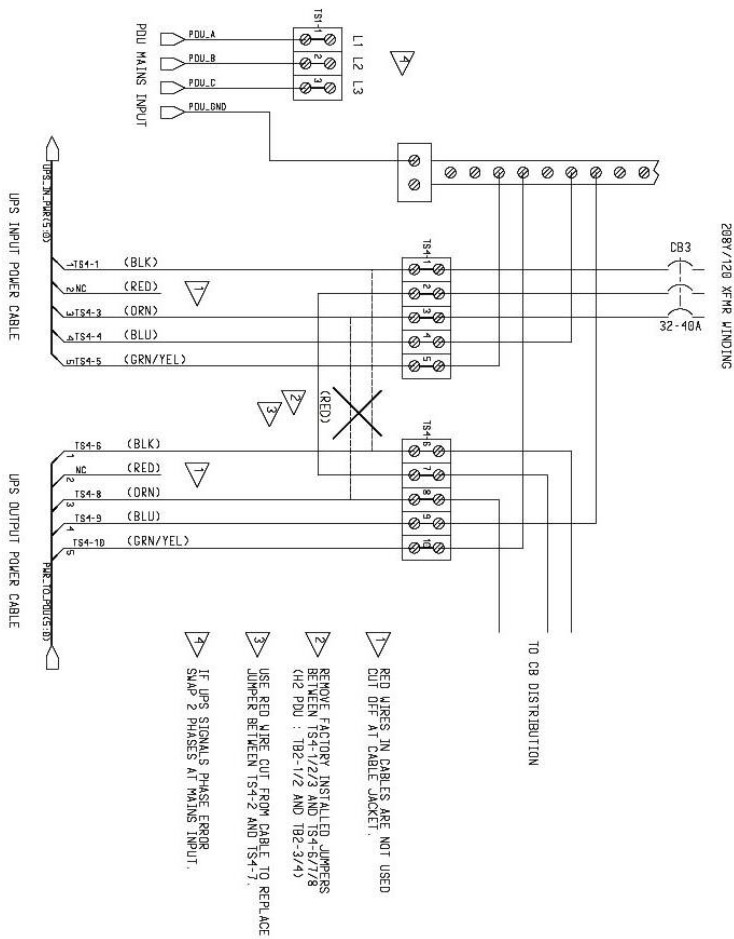


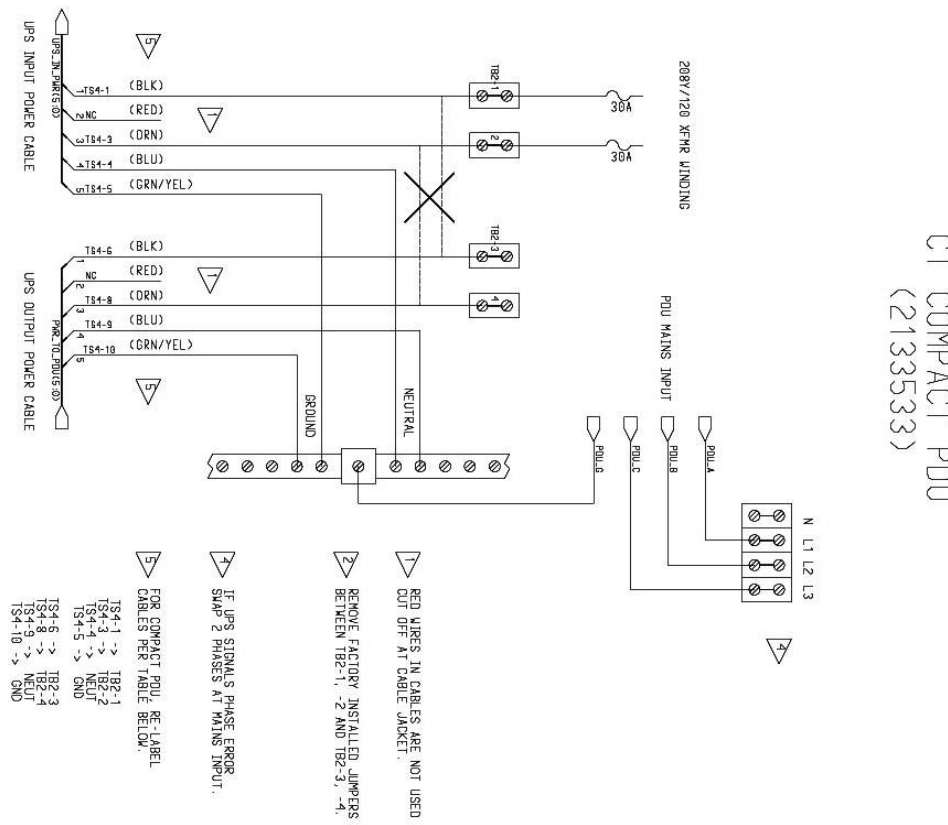
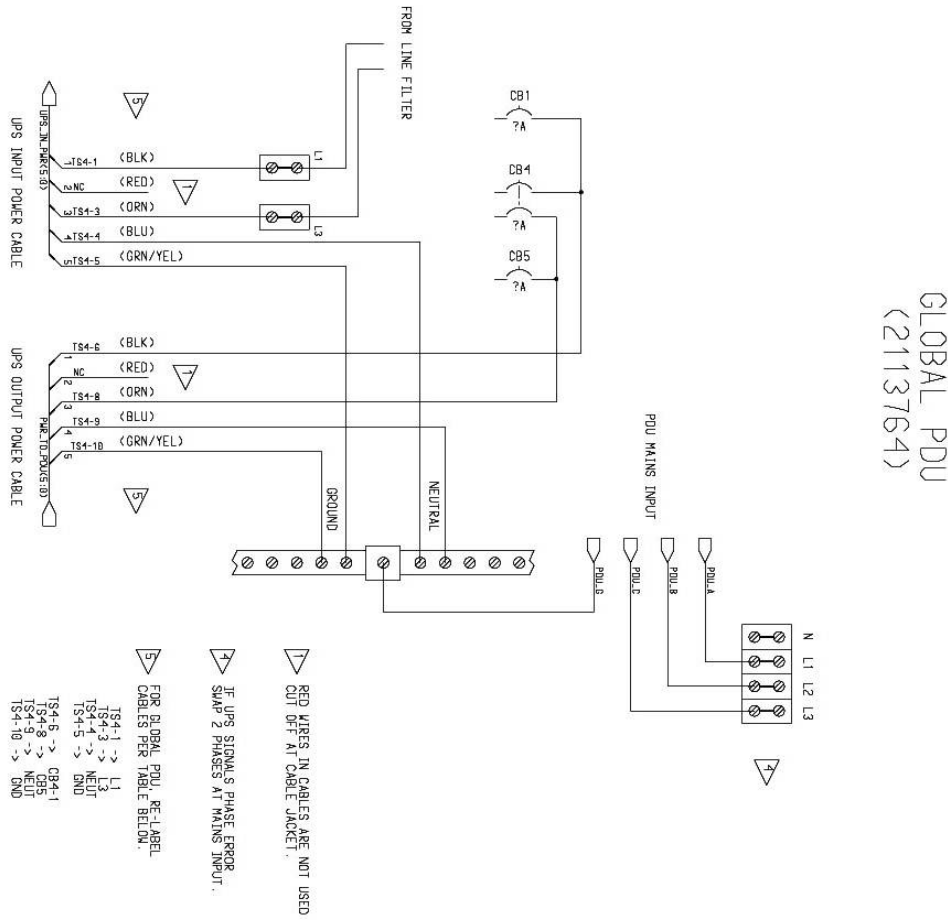
POWER DISTRIBUTION UNIT

(H2 COMPACT PDU MODEL 2269902)

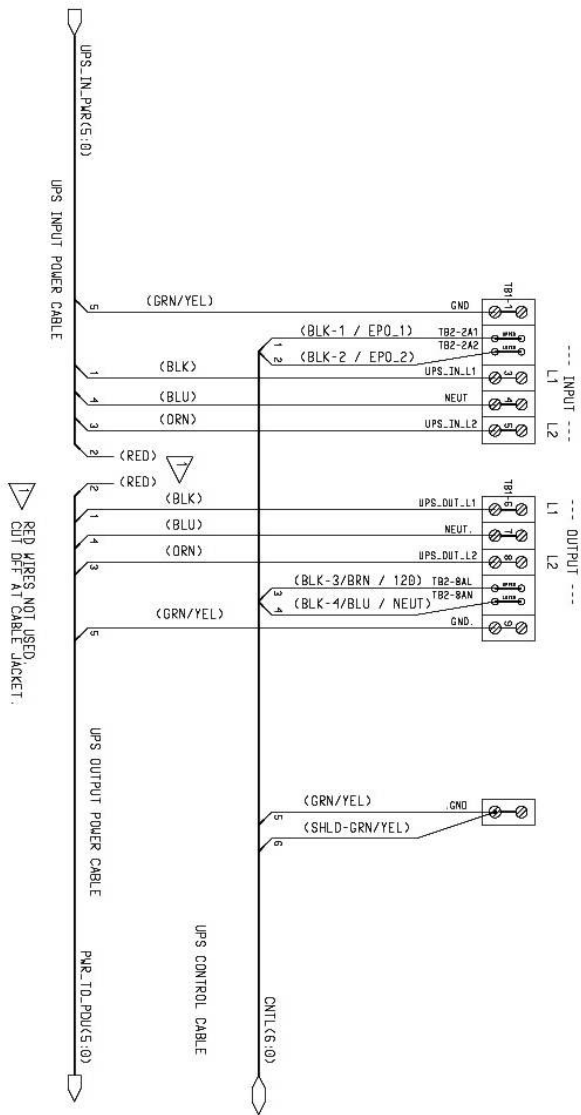


(NCPDU MODEL 2326492, -X)

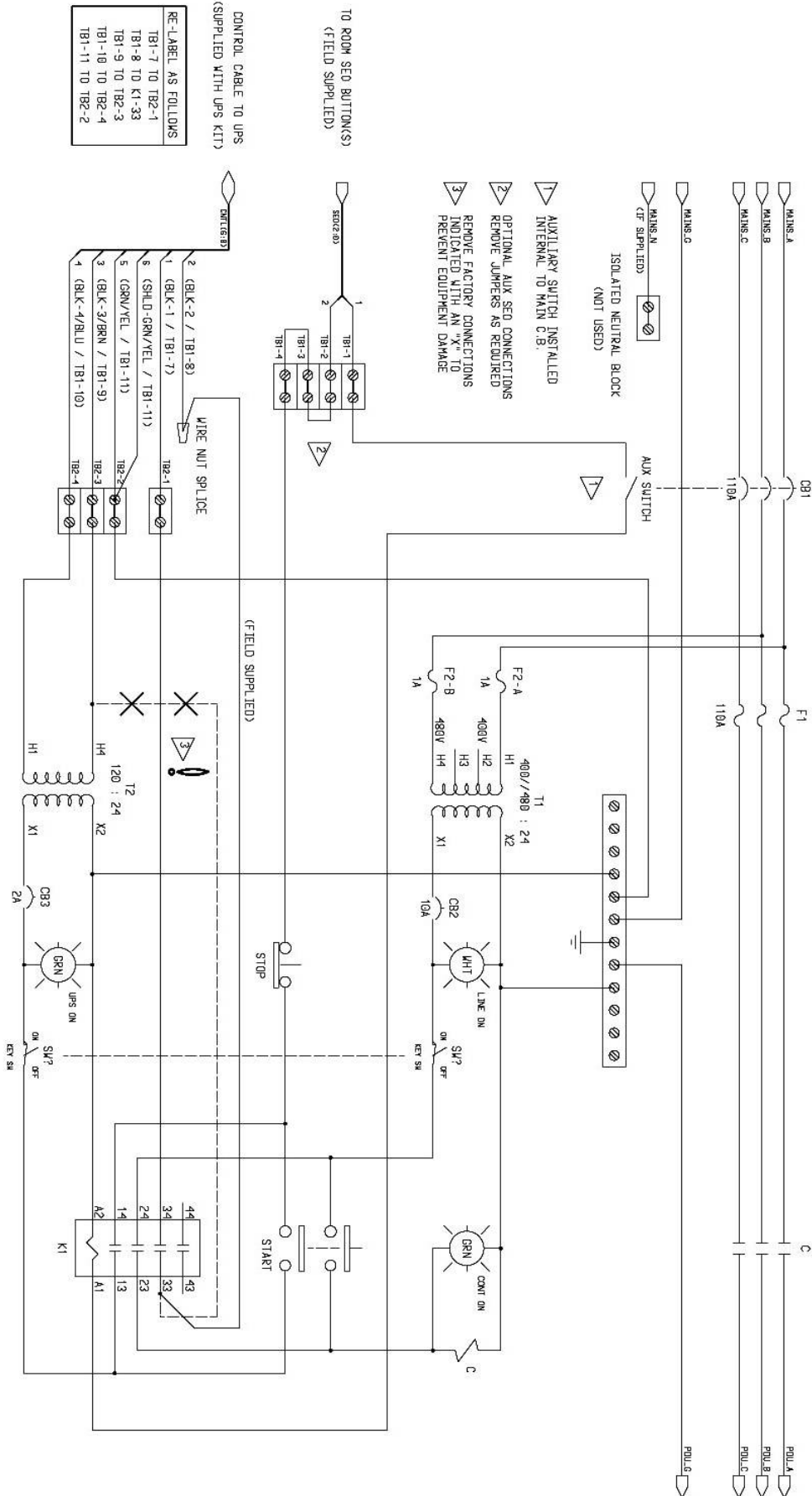




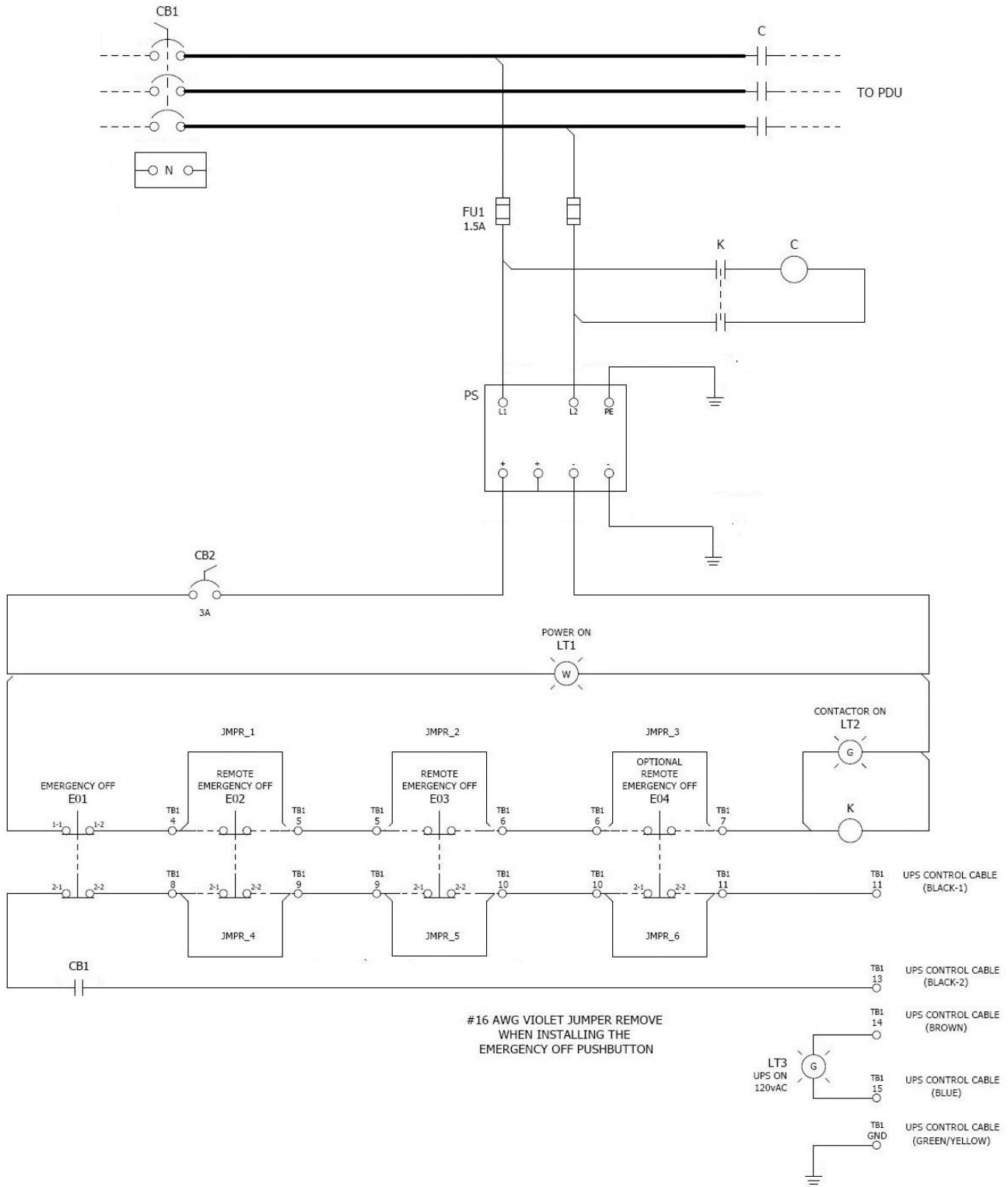
POWERWARE 9155-10GE SERIES UPS
(5169350)



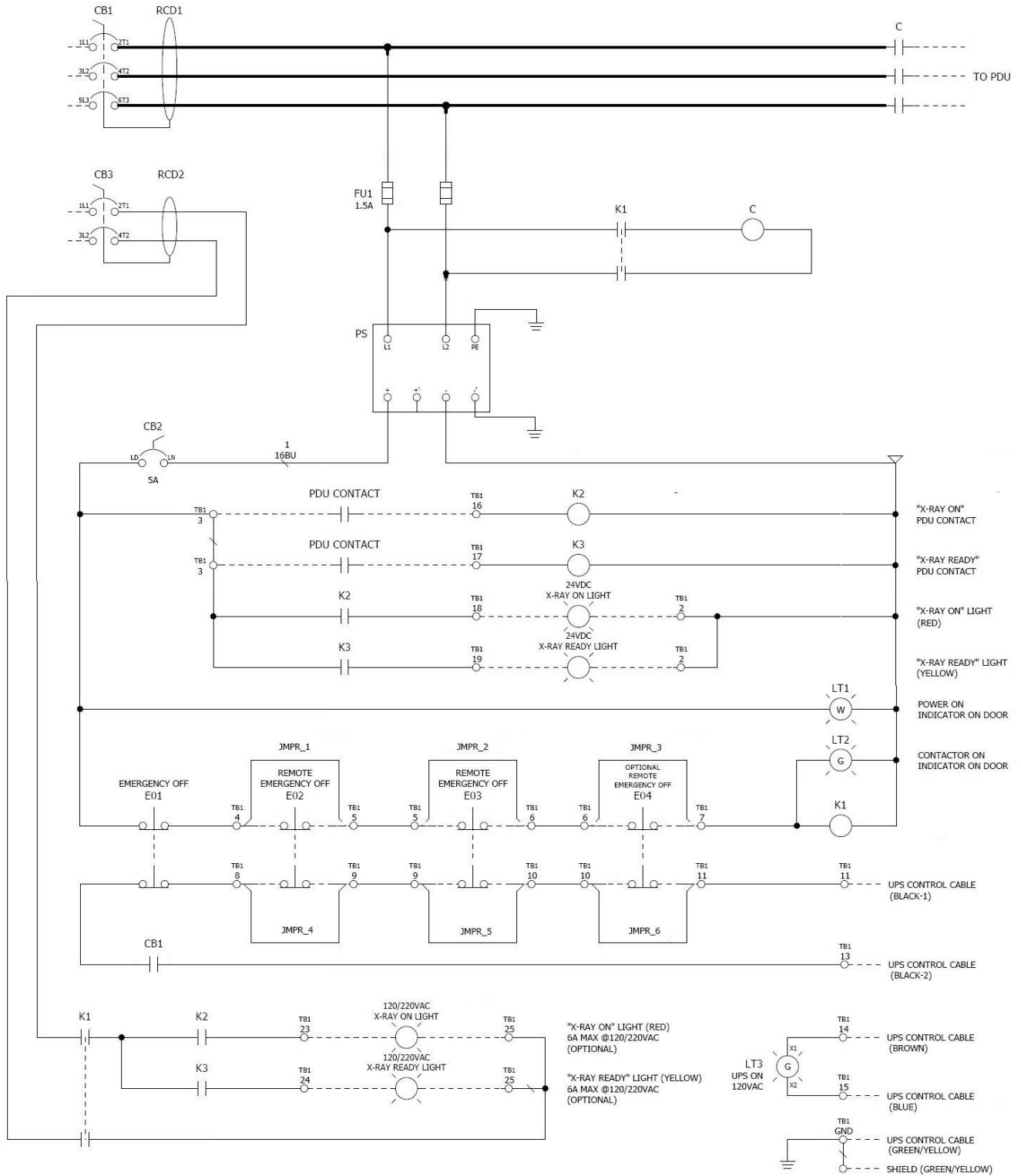
MOBILE (A1) MAIN DISCONNECT AND UPS CONTROL PANEL
(2305535 - INSTALLED BASE MOBILE SYSTEMS ONLY)
(HISTORICAL REFERENCE)



11- APPENDIX D- BEVCO SCHEMATICS USCAN PANELS (E4502BB, E4502BC, E4502BE, E4502BF, E4502BG)



12- APPENDIX E- BEVCO EU PANEL SCHEMATICS (E45021BA, E45021BB, E45021BC, E45021BG)



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Waukesha, Wisconsin 53188
USA

www.gehealthcare.com



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