



SEAUPS-III Uninterruptible Power Conditioning System

System Manual



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SeaUPS 3Ph

SAFETY WARNINGS

IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

**This manual is for SEAUPS-III UPCS:
Ruggedized 18kVA, Three Phase On Line**

DANGER: UPS contain HAZARDOUS VOLTAGES. Because of these voltages, installation of the system should be performed by a qualified electrician. The electrician must install according to local and national electrical codes.

There are NO USER SERVICEABLE PARTS inside the UPS, repairs of the system should be performed by qualified service personnel.

CAUTION: Batteries can present a risk of electrical shock or burn from high short circuit current. Observe proper precautions.

CAUTION: Proper disposal of batteries is required. Refer to your local codes for disposal requirements.

CAUTION: A UPS contains its own energy source (batteries). Output voltage may be present even when the UPS is not connected to an AC supply.

CAUTION: Never dispose of batteries in a fire. Batteries may explode when exposed to flame.

CAUTION: Never open or mutilate batteries. Released electrolyte is harmful to the skin and eyes, and may be extremely toxic.

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 50 C (104 F) without de-rating the maximum load. Do not operate near excessive humidity (95% max).

CAUTION: Do not remove or unplug the input cord when the UPS is turned on. This removes the safety ground from the UPS and the equipment connected to the UPS.

SYMBOLS: Listed below are the symbols utilized on the product labels or within the installation / user manual

 DC

 AC

 Ground



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Uninterruptible Power Conditioning System	MUPS-10001	SEAUPS-UPCS-III 450VAC I/O
Legacy Part Number	MUPS-10000	UPS
Sizes Available (VA)(W)	18KVA – 14.5KW	
Topology	Three Phase, On-Line, Double Conversion with Isolation	
Construction	Modular, Ruggedized to 901 shock and 167-1 vibration	
Operation	Continuous	
INPUT		
Input Voltage (Nominal)	450VAC, 3 phase, Delta	
Input Voltage Window	+/- 15%	
Input Current (Nominal)	27 Amps	
Frequency	60 +/- 3 Hertz	
OUTPUT		
Output PF	0.8	
Output Voltage	450VAC, 3 phase, Delta	
Output Current	23.1 Amps	
Regulation	+/- 1%	
Output Waveform	Sinusoidal	
Overload	110% for 10 minutes, 125% for 60 sec. 1000% for 1 cycle	
Efficiency AC AC (100% load)	87%	
Efficiency DC AC (100% load)	91%	
Batteries (DC)		
DC-Link Voltage (V)	+/-160 to +/-216	
Quantity	32 x 12V	
Charger	6A	
Runtime (Std Battery)	40 minutes @ 50% resistive load	
GENERAL		
UPS Dimensions H x W x D	68.25 x 24.125 x 32.125 inches	
Weight	1322 lbs	
THD	Less than 2% linear load	
Isolation	Galvanic Isolation	
Operating Temperature	-10° - +50° C	
Agency	None on system, see UPS section for UPS ratings	
Relative Humidity %	95 non condensing	
BTU/hr @ 100% load	7392	



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Specification	Battery Cab +192, N,-192V 100A
Legacy Part Number	BPN384E1100
Construction	Modular, Ruggedized to 901 shock and 167-1 vibration
DC Voltage (Nominal)	+/- 192V DC Center Tapped, 384VDC
Input Voltage Window	320V – 435VDC Temperature compensation, optional
Input Current (Nominal)	52A, Fused for 100A
Dimensions H x W x D	65.25 x 24.125 x 32.125 inches
Weight with batteries	1247 lbs
Number of Batteries	32 X 12V
Battery Type	Legacy Part Number BBAT-10030, 26Ahr Sealed Lead Acid
Operating Temperature	Nominal – 25C, Range 0 – 50C
Terminal Torque	40 in lbs

Specification	Switch, Bypass, 3PH, 450V, 30KVA
Legacy Part Number	BSWA-10000
Construction	Modular, Ruggedized to 901 shock and 167-1 vibration
Frequency	60 Hertz
Voltage	450VAC 3 Phase
Current	54A / Phase
Dimensions H x W x D	24 x 24 x 12 inches
Weight	110 lbs



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1) INTRODUCTION

Thank you for purchasing this quality product from Legacy Power Conversion, Inc.

Read this system manual thoroughly before installing or operating your SEAUPS-III UPS system. Keep this manual for future reference. For UPS operation see the SEAUPS-III User Guide.

This unit will provide highly regulated and controlled power for your sensitive electronics equipment, protecting it from frequent power glitches that are inherent in power systems.

IF YOU HAVE ANY QUESTIONS OR PROBLEMS PLEASE LET US HELP... Legacy Power Conversion, Inc is committed to outstanding customer service. Our customer service center will be happy to help you with any problems or questions you may have. Service technicians are available 24 hours a day, 365 days a year. Just call the telephone number below, or send a fax to the service fax number. Please have your unit's serial number available.

TELEPHONE NUMBER - 800-859-5711 or 608-565-5878

FAX NUMBER - 608-565-5879

Email – service @ lpc-ups.com

GENERAL DESCRIPTION

The SEAUPS-III UPS is a Modular, Ruggedized Three Phase UPS system designed to provide transient free, regulated power to your load equipment. Features that differentiate the SEAUPS-III UPS are:

- Ruggedized to withstand 901 shock (8-14Hz) and 167-1 vibration
- Elastomer shock mounts
- Conforms to Mil-Std-1399 Section 300A
- Parallel redundant and flexible in structure for easy to add modules.
- Hot swappable modules
- State of the art user interface



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2) Receiving your Uninterruptible Power Conditioning System

Your system should contain 3 major components:

- UPS rack and subassemblies
- Battery rack and batteries
- Three phase make before break bypass switch

UPS Components

- Hardened rack
- Base plate with shock mounts
- 3 – Power modules (10KVA – 8KW)
- 1 – System controller

Battery Components

- Hardened rack
- Base plate with shock mounts
- 32 batteries
- Cable Kit
- Wiring Diagram

Bypass Switch

- Assembled switch



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3) UPS Wiring



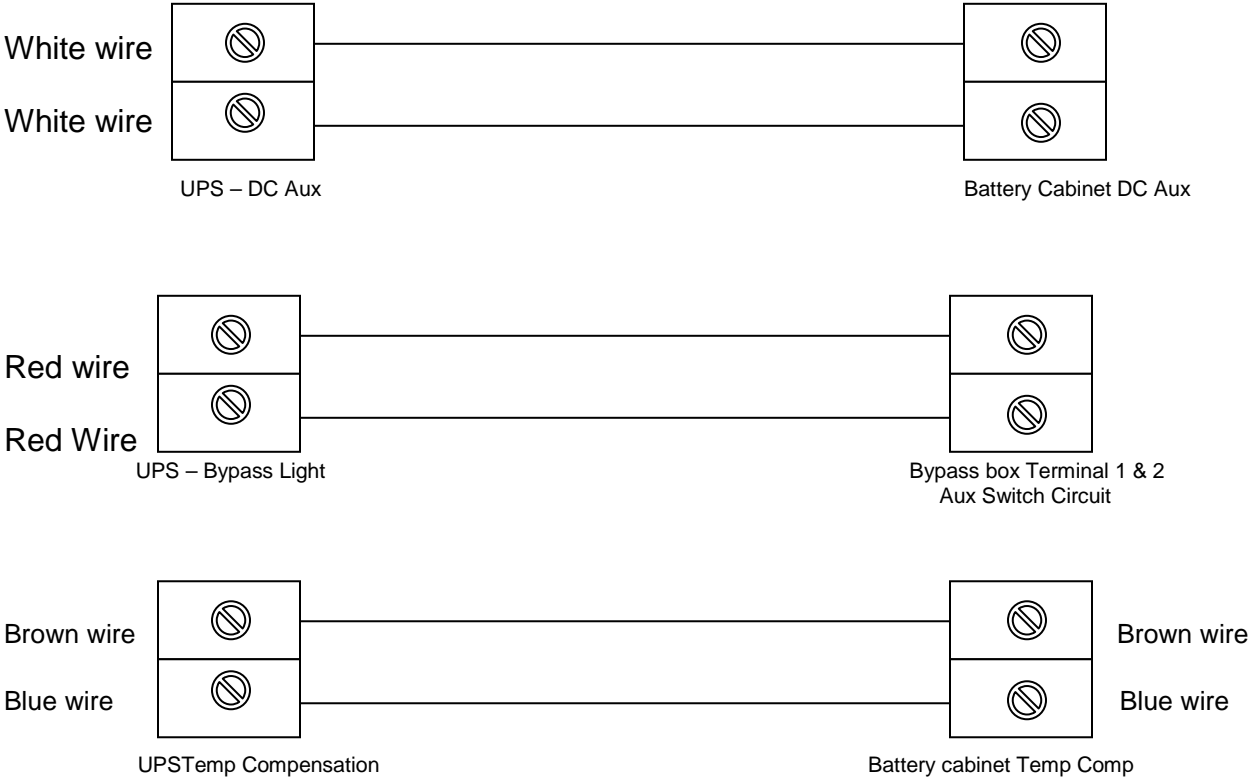
I/O Terminal Block, located at rear of UPS

- The power terminal block (DIN) has 4 sections. DC, Neutral, Input, Output. The location is at the rear of the UPS
- The label provides proper sections of the DIN block
 - DC is where + and – battery is connected
 - Torque - 24.9-26.7 in lb Wire size 10 – 0 AWG
 - Neutral is the neutral wire from the battery cabinet
 - Torque - 24.9-26.7 in lb Wire size 10 – 0 AWG
 - Input section is AC input source, 450V, 3 phase
 - Torque – 10.6-12.4 in lb Wire size 18 – 6 AWG
 - Output section is AC output to loads or bypass switch, 450V 3 phase
 - Torque – 10.6-12.4 in lb Wire size 18 – 6 AWG
- The small terminal strip has 3 sections. DC Aux, Bypass light, Temp Comp
 - Torque is 4.4 in lb
 - Wire size is 12 – 22 AWG
 - DC Aux is from the battery cabinet DC switch, indicates if battery switch is on or off

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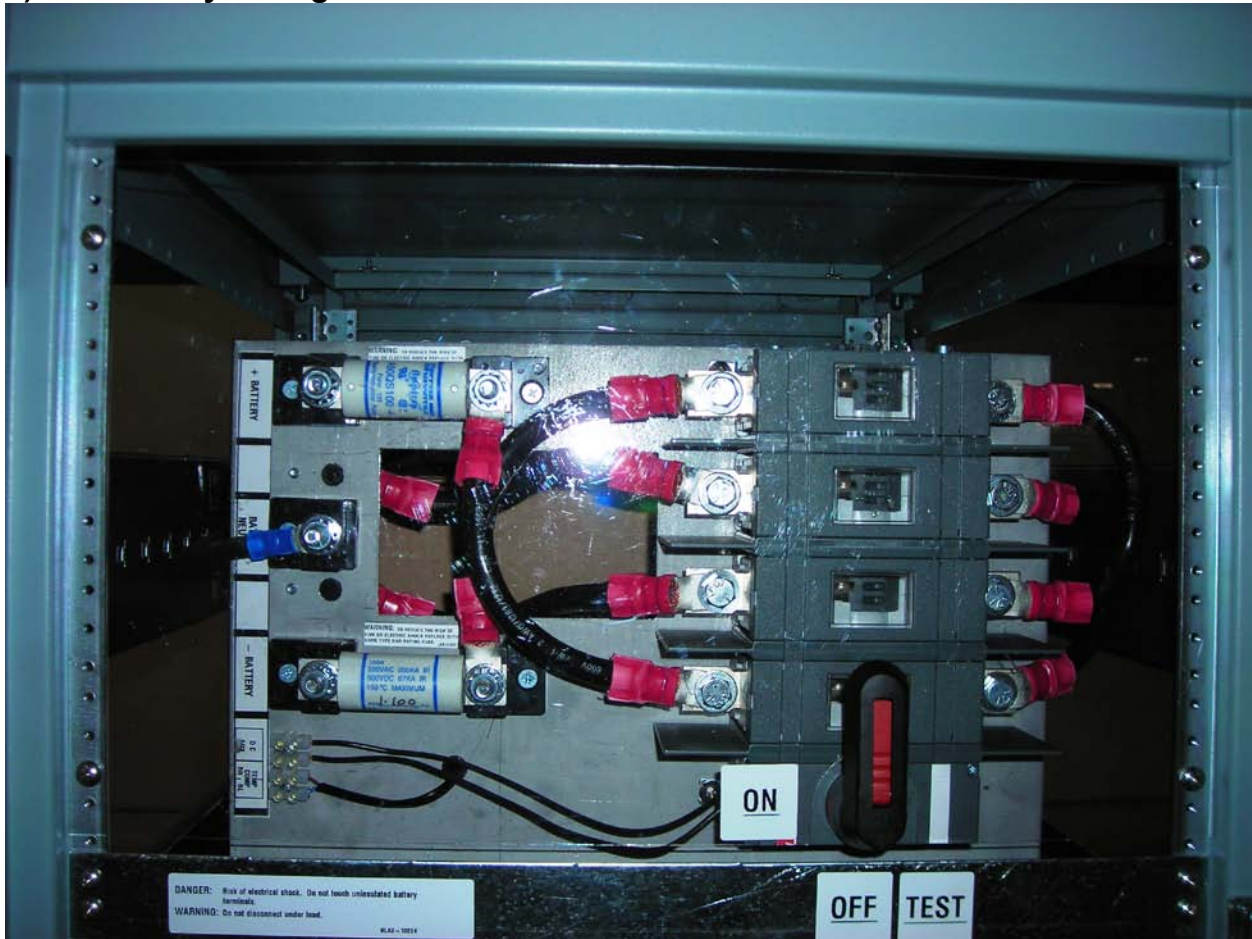
- Bypass Light is from the bypass switch, this will illuminate the light on the bypass switch when the UPS is in bypass mode and safe to switch the bypass from UPS to Bypass or Bypass to UPS
- **WARNING: Switching to and from bypass if the bypass light isn't lit may damage UPS or Bypass Switch.**
- Temp Comp is from the battery cabinet. **NOTE:** This is **polarity sensitive**. Brown and blue wire from battery cabinet must match up to brown and blue wire on terminal strip. This tells the UPS to compensate the float voltage of the batteries based on temperature. See UPS user guide.

Small Terminal Block Auxiliary Contacts



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4) Battery Wiring



Output connection of Battery Cabinet to UPS Cabinet

- The output connections from the battery cabinet are the 2 DC fuses that have no cables connected to them and the Neutral terminal block. Torque on the terminals is 100 in-lbs.
 - The upper most fuse is the + Battery connection to the UPS
 - The bottom fuse is the – Battery connection to the UPS
 - The center terminal lug is the Neutral connection to the UPS.

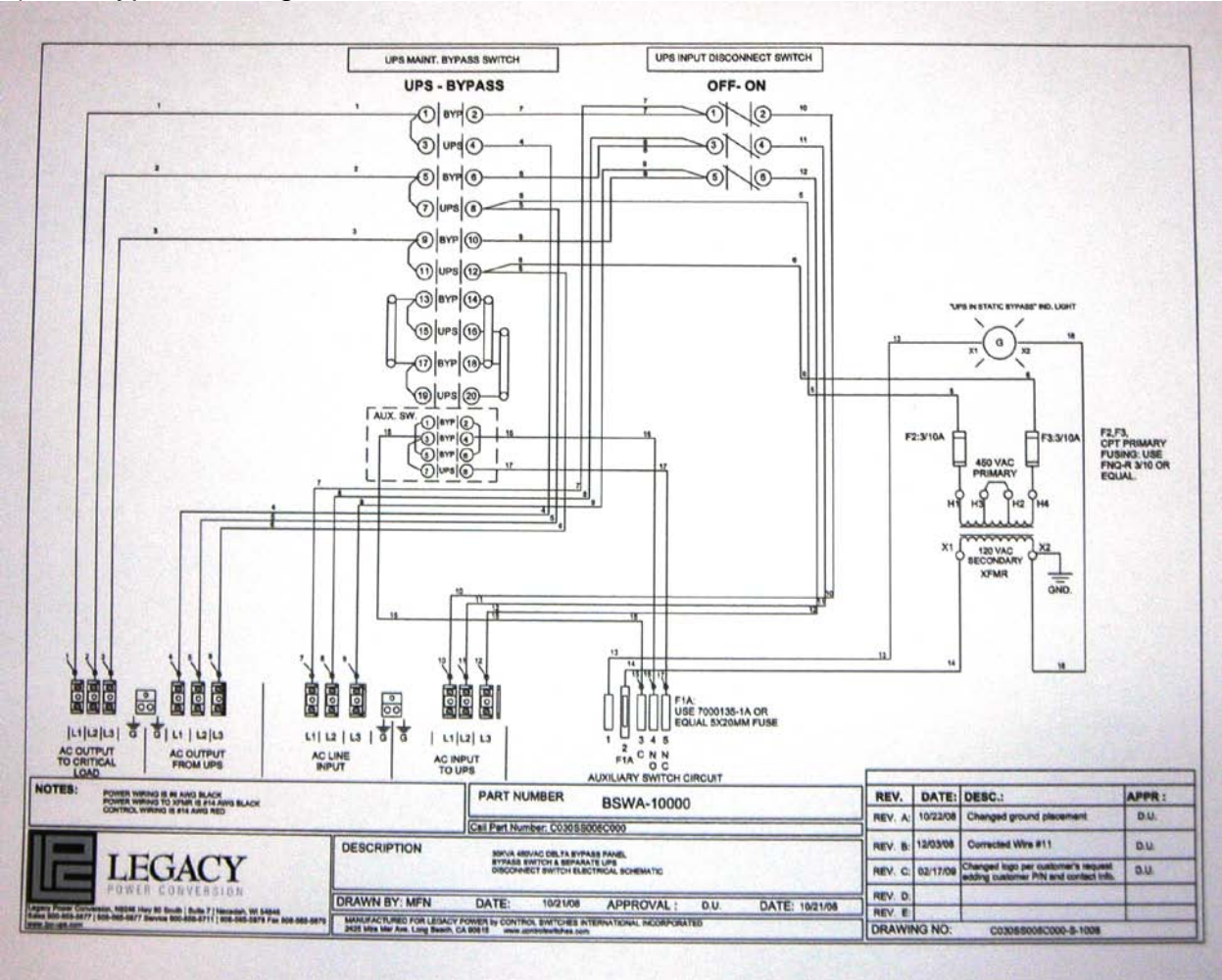
NOTE: The Neutral connection must be made for the UPS to function. See UPCS-III user guide.

Remove the nut and washer on each terminal and retain. The order for connecting the cable to the terminals is, Ring, washer, and nut.

Caution: The ring connector of the cable must contact the fuse lug to prevent fire.

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5) Bypass Wiring



- The terminal blocks are capable of 2 AWG- 10AWG.
- See schematic inside cabinet for proper terminations.
- Assure all phasing between input and output is correct.

