

CHAMPION PUMP COMPANY

Installation and Operation Manual

Models: BBUP900, 1500, 2300, BBUPW 12 Volt Battery Back Up Plus System

Thank you for purchasing this **CHAMPION PUMP PRODUCT!** We back these **Champion** products with **Champion** service and a **Champion** attitude. Please read, save and follow these instructions to ensure **Champion** performance.

These power backup systems allow the user to have an automatic power backup system for properly sized Champion Pump models in the event of a power outage. The pump(s) will operate from battery power for a limited amount of time based on battery size and operating conditions while commercial AC power is off, then the systems will automatically switch from battery power to AC power when it is restored. The system recharges backup batteries while AC power is on. Switchover of the power source is not instantaneous like that of an (UPS) Un-interruptible Power Supply. Installation of an optional high water alarm (#1011421) is also recommended.

BEFORE OPERATION FOLLOW THE IMPORTANT PRODUCT AND SAFETY INFORMATION:

**Warnings- Death, Personal Injury and or Property Damage
could result if not adhered to!**

Location Warnings:

- ! Install your BBUP in a location or compartment that minimizes exposure to heat, dust, direct sunlight and moisture.
- ! Although your backup system is moisture resistant, it is NOT waterproof. Flooding the unit with water will cause it to short circuit and could cause personal injury due to electric shock. Never immerse the unit and avoid any area where standing water might accumulate. Mounting should be in the driest location available with air temperature -20C to 40C and ideally between 15C and 25C (60F to 80F). If basement has water or moisture on floor, do not enter the area until all power is off. If the power shutoff box is in the basement, call an electrician.
- ! Leave a minimum of 2” clearance at front and back of the system for proper ventilation.
- ! Do not install the BBUP directly near magnetic storage media, as this may result in data corruption.
- ! Do not install near flammable materials, fuel or chemicals.

Battery Connection Warnings:

- ! The BBUP **will** operate with commercial wall outlet AC power without being connected to a battery, but must have a **12 volt battery(s) for backup power.**
- ! Multiple battery systems must be comprised of batteries of identical voltage, age, amp-hours, capacity, and type (**see How to Connect Batteries in Parallel for a Longer Run Time page 8**).
- ! Batteries should be installed and maintained in a well-ventilated area to prevent accumulation of explosive hydrogen gas. If installed inside a compartment, a ventilation system that circulates outside air will provide safe and optimal performance. A piece of cardboard should be waived to blow away any gases in or near the work area.

Battery Connection Warnings (cont'd):

- ! Sparks can occur during battery connections. Always observe proper polarity while connecting battery cables. **Serious personal injury or property damage can occur as a result of incorrect polarity when connecting live battery terminals.**
- ! Do not allow objects to come in contact with the two DC battery input terminals. Do not short or bridge these terminals together. **Serious personal injury or property damage can occur as a result of shorting live battery terminals.** Wearing gloves and safety glasses when working around batteries is recommended. Never smoke or use open flame when working around batteries.
- ! It is recommended that a UL listed ANL fuse and fuse holder be installed within 18 inches of the positive battery bank DC terminal. Check local codes and NEC (National Electrical Code). Fuse and holders are available at most marine supply stores.

Equipment Connection Warnings:

- ! Do not modify the BBUP unit's plug or receptacles in a way that eliminates its ground connection. Do not use AC plug adapters that will eliminate the plug's ground connection.
- ! Connect the BBUP unit only to a properly grounded AC power outlet or hardwired source. Do not plug the unit into its own receptacle, as this will damage the device and void the warranty.

Equipment Connection Warnings (cont'd):

- ! You may experience uneven performance results if you connect a surge suppressor, line conditioner or UPS system to the output of the unit. **IT HAS ONLY BEEN EVALUATED FOR USE WITH CHAMPION PUMP MODELS.**

Operational Warnings:

- ! The BBUP unit should only be checked for blown fuses or connection tightness. Do not open the casing for any reason. There are no user-serviceable parts inside. Do not use extension cords.
- ! Before making any changes with batteries, cabling, or any electrical devices connected to the BBUP unit always turn the unit off then unplug the AC power cord. Potentially lethal voltages exist within the unit. All connections to the inverter must be disconnected prior to any service work.
- ! Do not use the system to power medical equipment or any other appliance before checking with Champion Pump as it has only been evaluated for proper operation with Champion pump products.

WARNING! Failure to connect proper battery polarities can cause Serious Personal Injury and WILL result in damaging the system, possibly cause sparking and VOID the warranty. Securely mount the power system BEFORE connecting batteries and AC power.

Battery Recommendation:

The system is designed to operate most efficiently with deep cycle marine duty sealed lead acid (SLA) batteries. SLA type batteries cost slightly more, but can last longer. Vented wet cell lead acid batteries can also be used (see battery connection warnings and maintenance sections, along with the battery manufacturer's instruction manual). 12 volt car battery is not recommended.

Recommended rating: Deep cycle SLA Marine duty 12Volt, 100 Amp-hours

BBUP General Specifications for the (W) &900, 1500, 2300:

- 12V DC battery input
- 110-120 Volt Modified sine wave output
- Maximum 7.5 Amps, 12 Amps, or 19 Amps (respectively) combined total output load of both outlets
- 900 Watt, 1500 Watt, or 2300 Watt (respectively) continuous power available output
- 1800 Watt, 3000 Watt, or 4600 Watt (respectively) surge power
- AC line input is protected with a 10, 15, or 20 Amp slow-blow fuse (respectively)
- Power service required: 15 Amps, 15 Amps, and 20 Amps (respectively)
- Digital readout for battery voltage and watts on BBUP 1500 and 2300 units only

Note: The BBUP system has two outlet plugs, however the total output is the combined amperage/watts of both plugs. Do not connect more than one pump unless total amperage/watts when both pumps are operating together is less than the specifications for the given model. Check with Champion Pump if in question.

BBUP Included components:

- All units come complete with Battery Box, 3' positive and negative battery cables, and BBUP unit.
- BBUPW units include corresponding sump pump with switch and a check valve.
- The battery is NOT included.

Indication Lights

Power Indication LED (located above On/Off switch) and Audible Alarm:

Light Off: LED will be off, no color, if AC power is being supplied through BBUP from commercial AC outlet, not battery.

Light On: LED will illuminate green continuously whenever switch is "On" and the pump is being supplied power through the BBUP system from the charged battery, not commercial AC power.

Light On: LED will illuminate Red/Orange when the system senses a deeply discharged battery (low voltage at or below 10.5 volts) which causes an overload/heat situation of the BBUP. In addition, there will be audible beeping or solid alarm. The battery needs to be charged and or checked to see that it will hold a charge above 10.5 volts (see Maintenance section).

Battery Charge Indicator LED (located on lower housing):

Light Solid On: LED is solid Red when the battery is deeply discharged, the system will try to recharge the battery. This may take several hours. Battery operation is not available.

Light Slow Flash: LED is flashing Red approximately 1 second between flashes, this indicates the battery is discharged to around 11.5volts and is being recharged. Battery operation is available.

Light Fast Flash: LED is flashing Red approximately 1/2 second between flashes, this indicates the battery is fully charged. Battery backup operation is available.

Light is Off: LED is not illuminated, this indicates No AC power is available to charge the battery.

Installation Procedure:

1. Securely mount the BBUP unit so the indicator LEDs are visible and the power switch is reachable. Ensure that the BBUP unit power switch is **“OFF”** (Note Location Warnings on page 2).
2. Connect the battery supply using the provided cables as shown



3. **Ensure that the red (+) positive battery cable connection is made to the red (+) terminal and the black (-) negative battery cable is to the black (-) terminal. Securely tighten all fasteners, loose connections can cause arcing and failure. WARNING: Failure to connect proper battery polarities can result in Serious Personal Injury and Will result in damaging the BBUP unit.**
4. Plug the Champion Pump with piggyback switch into the AC receptacle on the front of the BBUP unit.
5. Plug the BBUP unit AC power cord into a wall socket connected to commercial power (note Equipment Connection Warnings on page 3&4).
6. Turn the BBUP unit power switch to **“ON”**. LED light should not be illuminated.
7. Ensure that the battery is charging. The lower red light (see LED indication lights explanation below) should be flashing, if not wait until battery system is charged before testing battery power operation.
8. Ensure that the pump operates properly. Raise the float switch by pouring water into the sump pit or manually. The pump should turn on and off as float is raised and lowered.
9. Test the backup system (once the battery is in the charged state, red light flashing) by unplugging the BBUP unit from the AC power wall receptacle. The system should switch over to battery power after approximately 5 seconds. The On/Off power switch light will illuminate green. Backup power is now available and the

Installation Procedure (cont'd)

9. pump can be checked for operation. Raise and lower the float to ensure the pump operates properly per the pump operating manual. Slightly different motor noise might be noticed, but that is normal when operating from battery power.
10. After verifying full battery backup operation, plug the BBUP unit power cord back into the wall socket. It should automatically switch back to commercial power (5 seconds). The system is ready for operation.

How to Connect Batteries in Parallel for a Longer Run Time:

Connect the positive terminal of the first battery to the positive terminal of the second battery. Connect the positive terminal of the second battery to the positive terminal of the third battery. Repeat this connection process with the negative terminals of the first, second, and third batteries. This parallel connection of the battery bank will supply 12 volts and the total amp-hours will be the added sum of amp-hours of each battery. Charging of batteries in parallel could take days to balance.

Warning! Observe proper polarity with all DC connections (All local and National Codes should be followed when hooking up the BBUPD system)

Maintenance:

Once a month on new installations and less frequently as experience dictates thereafter, check the battery condition. Adhere to all Battery Warnings in this manual, in addition to the Battery Manufacturer Warnings and maintenance instructions, as well as those of any other equipment used in the surrounding area. Before servicing, blow away gases by waving a piece of cardboard near the battery.

1. Unplug the BBUP from the wall receptacle.
2. Inspect battery terminals and connections for corrosion and tightness. Clean and tighten as required.
3. Check for proper operation using battery power (see pages 6,7&8).
4. If the system and pumps operate properly, plug BBUP back into power receptacle. If not see trouble shooting and correct problem.
5. If a vented wet cell lead acid battery is used with top caps that can be removed, the electrolyte level should be checked and filled to manufacturers specifications. The charge for each cell can be checked by using an inexpensive hydrometer purchased at an automotive parts store. A specific gravity of 1.265 indicates battery is fully charged. If the specific gravity of any of the cells varies more than .050, the battery should be replaced.

Warning: If battery acid contacts your eye(s) flush with cold running water for 10 minutes and seek immediate medical attention. If acid contacts your skin or clothing, wash immediately with soap and water. Never smoke or allow flame in the vicinity of a battery.

Troubleshooting:

Problem	Solution
No output voltage to pumps	Turn off and unplug the BBUP unit. Check and replace any blown fuses with the same type and rating.
	Turn off and unplug the BBUP unit and disconnect battery cables. Clean battery and unit terminals and the ring terminals on the cables then reconnect the cables.
Power inverter is shut down	If battery voltage is below 10V, either charge or replace the battery or batteries.
	If the BBUP unit is too hot, it will shut down automatically. If the red LED is lit, allow the unit to cool down. Check for adequate ventilation. Reduce the load by unplugging one of the pumps. Check pumps for proper operation and total amps. Check valves might be leaking between pumps.
Low battery alarm on all the time	If the batteries cannot keep a voltage above 10.5V, check the condition of the battery cables and cleanliness of all terminals. Recharge or replace the batteries if they cannot keep a minimum charge of 10.5V.

Notes

One Year “Limited” Warranty

For a twelve (12) month period from date of installation, subject to the terms and conditions herein after set forth, Champion Pump Company, Inc. reserves the right and option, in its sole discretion, to repair or replace defective equipment, parts or components.

This warranty does not apply to the following:

- 1) To defects or malfunctions resulting from failure to properly install, operate, or maintain the unit in accordance with good trade practices.
- 2) To defects or malfunctions resulting from abuse, accident, or negligence.
- 3) To normal maintenance service and the parts and labor used in connection with same.
- 4) To units which are not installed in accordance with applicable local, state and federal codes, or ordinances and good trade practices.
- 5) To units which are moved from their original installation location.
- 6) To units which are used for purposes other than what it was designed and manufactured for.
- 7) To units which are damaged by lightning, conditions beyond the control of Champion Pump Company, Inc. or other “acts of God.”

We will repair or replace, at our option, to the original purchaser any part or parts of our product found upon our examination to be defective. Please call Champion Pump Company, Inc. (419-281-4500) for instructions. Be prepared to provide the model number, the date code and/or serial number and proof of the date installed when exercising this warranty. All transportation charges on products or parts submitted for repair or replacements must be paid by the purchaser.

AFTER THE EXPIRATION OF THE TIME PERIOD OF THIS WARRANTY, THERE ARE NO WARRANTIES OF ANY KIND, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE (**NOTE!** SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU).

IN NO EVENT SHALL CHAMPION PUMP COMPANY, INC. BE LIABLE OR RESPONSIBLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY CHAMPION PUMP COMPANY PRODUCT, PARTS OR SERVICE (**NOTE!** SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU).

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS; YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND WHAT IS STATED ABOVE.

WARRANTY DOES NOT COVER LABOR, EXPENSES, OR SHIPPING.

WARRANTY DOES NOT COVER ITEMS EXEMPTED FROM PRODUCT MANUFACTURERS’ WARRANTY.