

# CHAMPION PUMP COMPANY

## Installation and Operation Manual

### Models:

**BBUP900D(W), BBUP1500D(W), BBUP2300D**

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 with monitoring alarms that alternates the operation of two (2) properly sized Champion Pump models in the event of a power outage. The pumps 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 comes with two level switches and will continue to operate if one switch fails. 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. The system also comes equipped with a backup high water alarm feature if optional high water switch (28-0007-0011) is used.

**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 BBUPD 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 power shutoff box is in basement, call electrician.
- ! Leave a minimum of 2” clearance at front and back of the system for proper ventilation.
- ! Do not install the BBUPD 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 BBUPD **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 7**).
- ! 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 BBUPD 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 BBUPD 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 BBUPD 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 BBUPD 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 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.

## BBUPD General Specifications for 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 BBUPD 1500 and 2300 units only

**Note:** The BBUPD will try to operate two pumps if the switch level does not turn off in approximately 60 seconds, therefore the total amperage of both pumps when operating must not exceed **Maximum** combined total output rating of the respective models as listed above. If the total is exceeded then an overload and or overheated condition may occur and prevent proper operation (see Indicator Lights, page 8).

## BBUPD(W) Included components:

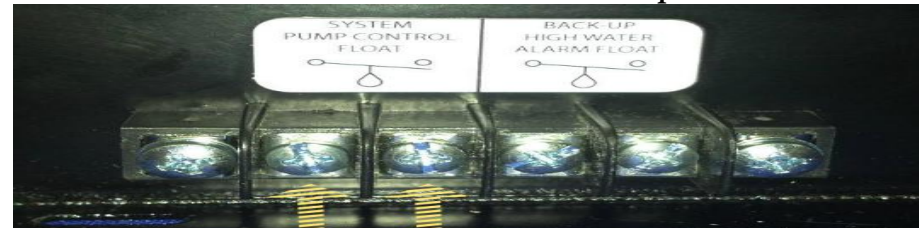
- All units come complete with Battery Box, 3' positive and negative battery cables, BBUPD unit, and (2) vertical level control switches with 10' cords
- BBUPDW units include (2) corresponding sump pumps and (2) check valves that must be mounted at each pumps discharge
- **NOT** included: battery or high water alarm level switch

## Installation Procedure:

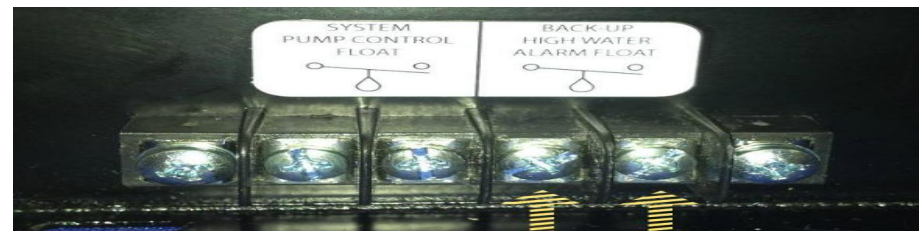
1. Securely mount the BBUPD unit so the indicator LEDs are visible and the power switch is reachable. Ensure that the BBUPD unit power switch is “OFF.” (note the **Location Warnings on page 2**)
2. Connect the battery supply using the provided cables as shown



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 **WILL** result in damaging the BBUPD unit.
4. Connect each pump float switch (provided) to the terminal block located on the side of the unit. **Staggering the switch heights in the basin allows one switch to remain as backup.**



5. If using the backup High Water Alarm feature, set a sensor switch (not included) in basin at high water alarm level and connect leads to the terminal block as shown.



6. Plug the pumps into the AC receptacles on the front of the BBUPD unit (labeled Pump 1 and Pump 2).
7. Plug the BBUPD unit power cord into a wall socket. **(note the Equipment Connection Warnings on page 3)**
8. Turn the BBUPD unit power switch to “ON.”
9. Ensure that the battery is charging. The yellow LED on the lower face of the unit should either be on solid or flashing.
10. Ensure that the pumps are operating properly. Raise one of the level switch floats to the on level and the green LED on the BBUPD unit for a pump (1 or 2) should be on when that particular pump is in operation. Lower the float to off level and the pump and LED should turn off. Raise the float again and the other pump and LED should turn on. Try same procedure for other staggered level switch float.
11. Test the backup system (if battery is in charged state) by unplugging the BBUPD unit AC power cord from the wall socket. The system should switch over to battery power after approximately 5 seconds. Ensure that the pumps are operating properly by raising and lowering float on the switch. Slightly different motor noise might be noticed, but that is normal when operating from battery power.
12. After verifying full battery backup operation, plug the BBUPD 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.

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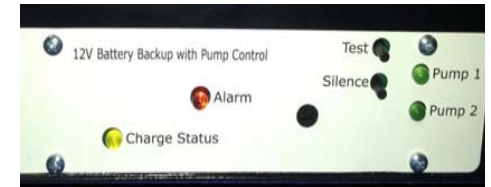
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### Indicator Lights:



**Power Indication LED** (located on the upper housing)

- Off** – Unit is operating with commercial **wall outlet** AC power.
- Green** – Unit is operating from **battery** source, wall outlet power is off.
- Red** – Unit is overheated, overloaded or battery voltage has dropped to below 10.5V. **Audible** alarm will also be heard in this state.



**Charge Indication LED (Yellow)** - located on the lower housing)

- Solid:** Indicates that the battery is at or above 12.6V and is being maintained with a low-current trickle charge.
- Slow Flash (1 second):** Indicates that the battery is discharged to around 11.5V and is being recharged in the high-current charge mode. Unit will still operate with battery power.
- Fast Flash (1/2 second):** Indicates that the battery is deeply discharged (less than 10V) and is being recharged in the high-current charge mode. Indicates no battery backup is available.

**Pump 1-2 Indication LEDs (Green)** - located on the lower housing)

- Solid:** Indicates when a pump is currently in use.

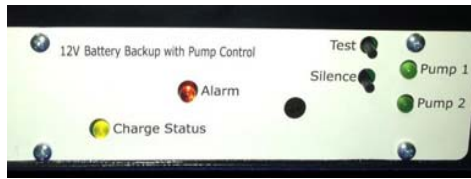
**Alarm Indication LED (Red)** - located on the lower housing)

- Solid:** Indicates a pump failure or high water level. Audible alarm will also sound if not silenced.

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## Test-Silence Buttons:



**Test:** Pressing the test button will activate the alarm buzzer.

**Silence:** Pressing the silence button will deactivate the alarm buzzer.

**Diagnostic Test:** Press and hold the test button for 5 seconds to perform the diagnostic test. The BBUPD unit will cycle thru each LED and activate the alarm to verify they are in working condition. (**NOTE:** The backup high water alarm buzzer will not sound during this test as it operates on an independent circuit).

## Operational Features:

Pumps alternate with each ON level switch indication.

If pump 1 or 2 runs for more than 60 seconds with no change in float switch status then pump 2 or 1 will activate. If pump 1 and pump 2 run together for more than 30 seconds with no change in float switch status then the alarm buzzer will sound. This might indicate a system problem or the pumps aren't keeping up with incoming flow. The alarm will clear once the off level is again reached. If the alarm clears itself then the system is fine.

**NOTE:** If a pump should fail 5 consecutive cycles then the alarm buzzer will sound once per second. The alarm light (RED) will flash once if pump 1 needs to be checked and twice if pump 2. The indicated pump should be inspected for proper operation. The alarm will **clear** itself once the float switch cycle has operated correctly not indicating a pump failure. To manually clear this alarm once the problem has been checked and corrected, the float switch needs to be raised and lowered by hand or by pouring water into the sump to activate the pumps. Once they are cycled, the alarm should clear. Just removing power from the BBUPD will **not** clear the alarm.

## Backup High Water Alarm:

The backup high water alarm buzzer is located on the side of the lower housing and its operation is independent from the rest of the BBUPD unit. It is available if desired as a backup to the timed sequence alarms provided in the system as described previously. An optional sensor level switch can be installed in the sump at the high water level and connected to the side terminals (see Installation procedures, item 5, page 6) and the independent high water alarm circuit will monitor this switch status.

## Troubleshooting:

Problem	Solution
<b>No output voltage to pumps</b>	Turn off and unplug the BBUPD unit. Check and replace any blown fuses with the same type and rating.
	Turn off and unplug the BBUPD unit and disconnect battery cables. Clean battery and unit terminals and the ring terminals on the cables then reconnect the cables.
<b>Power inverter is shut down</b>	If battery voltage is below 10V, either charge or replace the battery or batteries.
	If the BBUPD 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.
<b>Low battery alarm on all the time</b>	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.

**Note: Check valves must be installed and operate correctly between the duplex pumps if piping is common so as not to allow recirculation between pumps into the basin.**

**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 BBUPD 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).
4. If the system and pumps operate properly, plug BBUPD 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.**

### **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.