BACKUP POWER KIT

INSTRUCTION AND OPERATING MANUAL

Specifications

AMP Rating	4.7 Amps
Temperature Rating	42°F to 95°F
Discharge	1-1/2″ NPT

MODEL MLFS22743
MODEL MLFS22738

IMPORTANT!

READ ALL INSTRUCTIONS CONTAINED IN THIS MANUAL BEFORE USING THIS PRODUCT.

Save these instructions for future reference. Failure to read and follow the warnings and instructions within this instruction manual could result in property damage, serious injury or death.

SAFETY FIRST!

This instruction manual contains very important information for you to know and understand. This information is provided for your safety and to help prevent equipment problems from occurring. Please observe all safety information labeled danger, warning, caution, and notice.

WARNING

WARNING INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH, SERIOUS INJURY OR MAJOR PROPERTY DAMAGE.

RISK OF ELECTRIC SHOCK. TO REDUCE THIS RISK, OBSERVE THE FOLLOWING WARNINGS:

WARNING! To reduce the risk of electrical shock, this system must be properly grounded in accordance with the National Electric Code (NEC) and all applicable state and local codes and ordinances. The receptacle should be protected with a Ground Fault Circuit Interrupter (GFCI).

WARNING! To reduce the risk of electrical shock, always disconnect the pump / system from the power source BEFORE handling or servicing.

WARNING! Never remove the ground prong from the plug, or use an adapter that eliminates the ground prong.

WARNING! Never plug this pump system into an electric outlet while standing on a wet surface.

WARNING! Cables should be protected at all times to avoid punctures, cuts and abrasions that may result in exposed wiring. Never handle connected power cords with wet hands.

WARNING! The FloodStop® System has not been investigated for use in or around swimming pools, marine areas, recreational water installations, decorative fountains or any installation where human contact with the pumped fluid is common.

WARNING! Do not use an extension cord. Extension cords could present a safety hazard if not properly sized, become damaged or the connection falls into the sump pit. Do not attempt to disassemble the FloodStop® System controller or Backup Pump. There are no field serviceable parts or repair options!

RISK OF EXPLOSION. TO REDUCE THIS RISK, OBSERVE THE FOLLOWING WARNINGS:

WARNING! Do not use to pump flammable or explosive liquids such as gasoline, fuel oil, kerosene, etc.

WARNING! Do not use in a flammable or explosive atmosphere.

NOT SUITED FOR POTABLE WATER APPLICATIONS.

WARNING! Do not use this pump to transfer water that will be used for potable (drinking) water. This pump is only to be used in applications for which it is designed.

CAUTION

CAUTION INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, MAY RESULT IN MINOR INJURY OR PROPERTY DAMAGE.

TO REDUCE THE RISK OF HAZARDS THAT CAN CAUSE INJURY OR PROPERTY DAMAGE, OBSERVE THE FOLLOWING WARNINGS:

CAUTION! Do not use discharge hose. Discharge hose may whip under pressure. Use rigid piping and fittings to secure the pump in the sump basin to reduce movement.

CAUTION! Do not install the pump if it has been damaged in any way.

CAUTION! Do not carry or lift the pump by the power cord. Use the pump's lifting handle.

PUMP PERFORMANCE

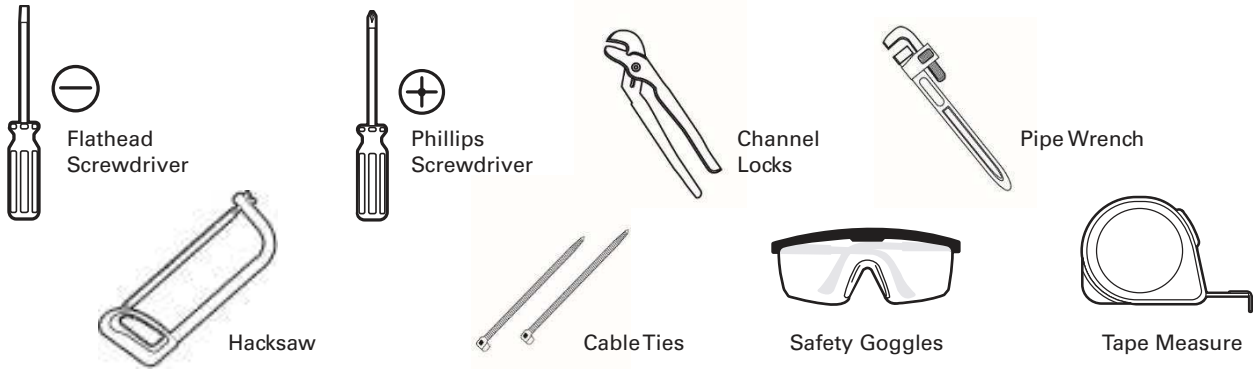
MODEL	HP	GPH of Water @ Total Feet of Lift						Max. Lift
		0 ft.	5 ft.	10 ft.	15 ft.	20 ft.	25 ft.	
MLFS22208 MLFS22212 MLFS22213	1/2	4300	3900	3500	3100	2500	1700	30 ft.
MLFS22209 MLFS22214 MLFS22215	1/3	3800	3400	3000	2500	1800	0	25 ft.

PUMP PRE-INSTALLATION

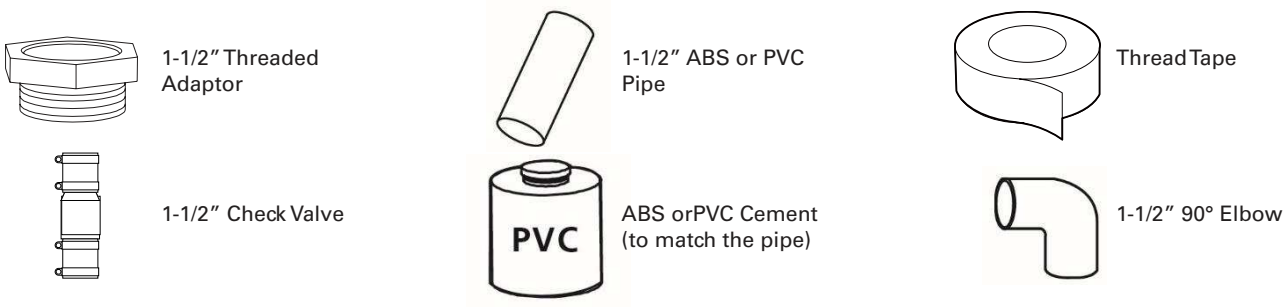
APPLICATION

- This submersible sump pump is designed for home sump applications. Use this pump only for pumping water.
- This unit is not designed as a waterfall or fountain pump, or for applications involving salt water or brine! Use with waterfalls, fountains, salt water or brine will void warranty.
- Do not use where water recirculates.
- Not designed for use as a swimming pool drainer

TOOLS REQUIRED



MATERIALS REQUIRED (NOT INCLUDED)



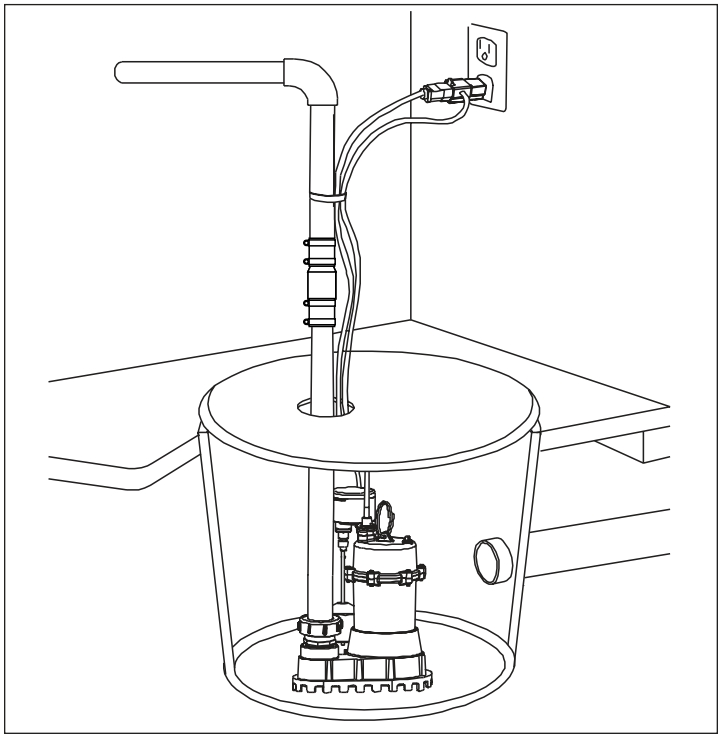
NOTE: Parts are not shown to scale.

PUMP INSTALLATION

1. Set the pump on a solid, level surface in the bottom of the sump pit. If necessary, use a pump stand to provide a solid base. Avoid placing the pump on loose gravel, earth or sand.
2. Install discharge plumbing according to state and local codes. It is highly recommended that rigid PVC is used for the discharge line. Installing a union in the discharge line will make it easier to remove the sump pump for maintenance. The discharge line must be sloped downward away from the foundation to ensure that the water properly drains away and that the discharge line will not freeze during cold spells.
3. Install a check valve in the discharge line. The check valve may be positioned just above the sump basin for ease of service and/or replacement.
4. If applicable, assemble the switch to the discharge line using the attached hose clamp. Position the switch so that when the float is at its lowest position it is at least 3" above the base of the pump (just above the inlet). Make sure that the switch is positioned where the float can move up and down freely.
5. Secure power cord to the discharge pipe using cable ties to prevent switch entanglement.
6. Plug the power cord into a ground fault circuit interrupter (GFCI) protected outlet.
7. Fill the sump basin with water until the float rises and starts the pump cycle. The pump will stop when the water level falls to the switch's off position. Repeat this several times to ensure proper operation and that the switch operates freely.
8. Install the sump basin gasket / cover.

WARNING

THIS PUMP WAS NOT DESIGNED TO HANDLE SALT WATER, BRINE, LAUNDRY DISCHARGE, WATER SOFTENER DISCHARGE OR ANY OTHER APPLICATION THAT MAY CONTAIN CAUSTIC CHEMICALS. DAMAGE TO THE PUMP MAY OCCUR AND WILL VOID THE PUMP'S WARRANTY.



PUMP CARE AND CLEAN

CAUTION: Always use the handle to lift the pump. Never use the power cord to lift the pump. To avoid skin burns, unplug the pump and allow time for it to cool after periods of extended use.

DO

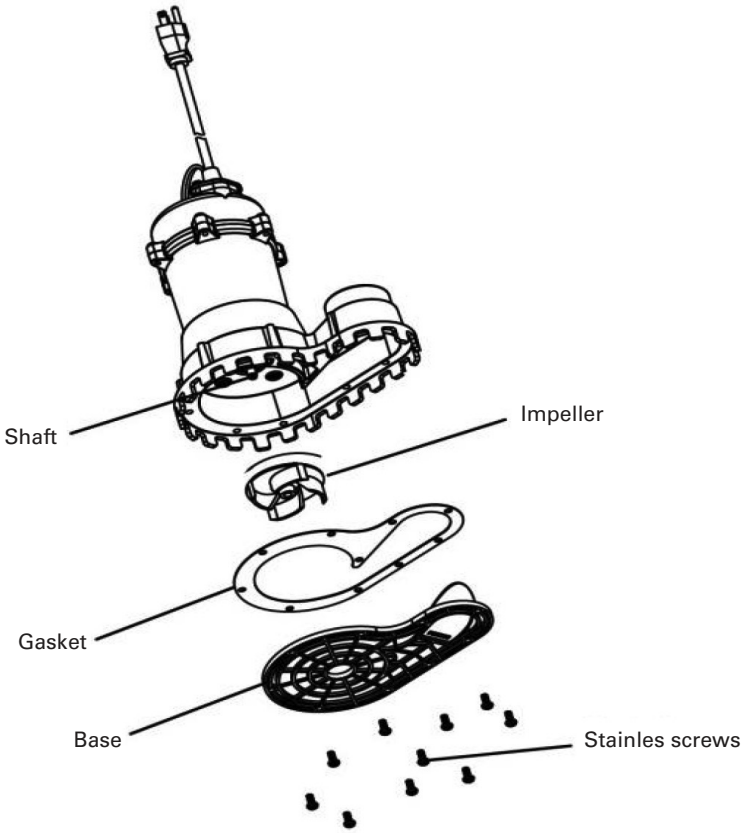
- When the power is disconnected, inspect the pump suction screen and remove all debris, then plug the pump back into the grounded (GFCI) outlet.

DO NOT

- Do not disassemble the motor housing. This motor has NO repairable internal parts, and disassembly may cause leakage or dangerous electrical wiring issues.
- Do not lift the pump by the power cord.

TO CLEAN A PUMP WITH CLOGGED DEBRIS

- Unplug the pump from electrical power.
- Unscrew the stainless screws, and remove the base.
- Use a flathead screwdriver to hold the shaft, then turn the impeller counterclockwise to release the impeller.
- Remove debris from around the shaft and on/under the impeller.
- Reassemble the pump.



PUMP TROUBLESHOOTING

WARNING

CAUTION INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, MAY RESULT IN MINOR INJURY OR PROPERTY DAMAGE.

PROBLEM	POTENTIAL CAUSE	POSSIBLE SOLUTION
Pump Will Not Run	1. Blown fuse, tripped breaker or tripped GFCI 2. Low Line Voltage 3. Switch obstructed 4. Insufficient water level 5. Motor Failure 6. Switch Failure	1. Check all electrical connections. Check for blown fuses, tripped GFCI or tripped circuit breaker. 2. Contact a licensed electrician. 3. Remove obstruction and check for free movement. 4. Water needs to rise to a level that activates the switch. 5. Replace pump. 6. Replace switch.
Pump Cycles too frequently	1. Switch Failure 2. Check valve not present or not operating properly	1. Replace switch. 2. Install or replace the check valve.
Pump Shuts off and turns on independent of switch (trips thermal overload protector). **CAUTION!** Pump may start unexpectedly. Disconnect power supply.	1. Switch failure 2. Switch obstructed 3. Inlet blocked or discharge blocked 4. Excessive inflow or pump not properly sized	1. Replace switch. 2. Remove obstruction and check for free movement. 3. Clean pump inlet. Check and remove any obstructions from the pump discharge line. 4. Recheck all sizing calculations to determine proper size.
Pump runs continuously	1. Impeller obstructed or damaged 2. Piping attachments too rigid or too loose to building structure	1. Clean and / or replace impeller. 2. Install a rubber coupling to isolate pump vibration for discharge line.
Pump operates noisily or vibrates excessively	1. Impeller obstructed or damaged 2. Piping attachments too rigid or too loose to building structure	1. Clean and / or replace impeller. 2. Install a rubber coupling to isolate pump vibration for discharge line.
Pump runs but delivers insufficient capacity	1. Low line voltage 2. Impeller obstructed, worn or damaged 3. Inlet blocked or discharge blocked 4. Pump undersized for application 5. Check valve stuck closed of installed backwards	1. Contact a licensed electrician. 2. Clean and / or replace impeller. 3. Clean pump inlet. Check and remove any obstructions from the pump discharge line. 4. Recheck all sizing calculations to determine proper size. 5. Remove and examine check.

BATTERY GENERAL INFORMATION

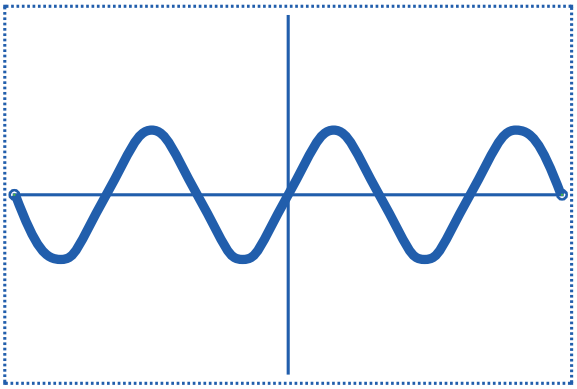
To ensure safe and reliable operation, please carefully read this service and installation manual in its entirety before installing and/or using this product. Reasonable care and safe methods in according with sound plumbing practices should be strictly adhered to. Before installation, refer to and understand all relevant local plumbing and electrical codes.

DO NOT THROW AWAY THIS MANUAL. Keep it in a safe place so that you may refer to it for periodic service and maintenance.

Always disconnect the power before servicing this product. Failure to do so may result in serious injury or death. Consult with a qualified electrician if you are unsure of the power source or cannot determine whether power has been properly disconnected.

BATTERY PERFORMANCE

The Primary Sump Pump Backup Power System will convert DC power from a 12VDC Deep Cycle Battery to AC power. When the Primary Sump Pump Backup Power System is inverting, the output waveform is a pure sine wave.



BATTERY SPECIFICATIONS

WARNING

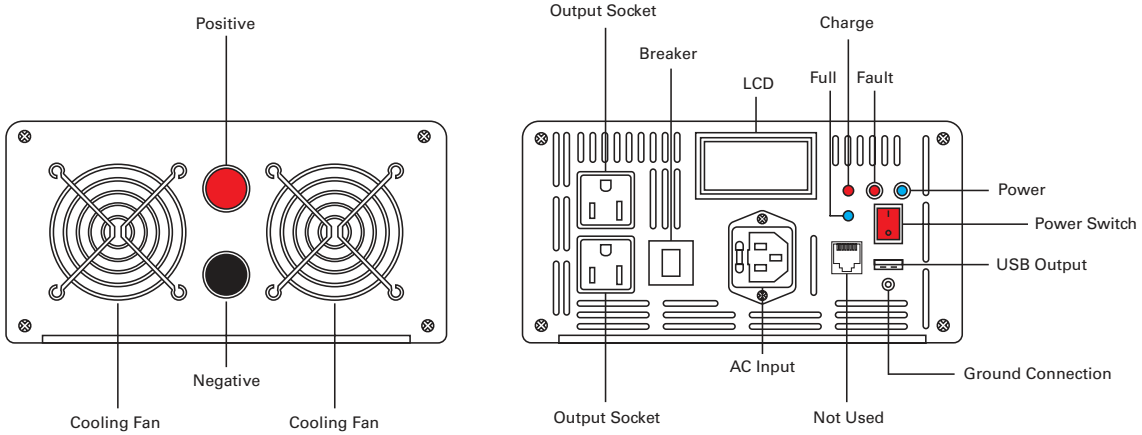
The Primary Sump Pump Backup Power System is grounded via a PCB Ground Plane. This grounding technique is not detected by GFCI testing devices.

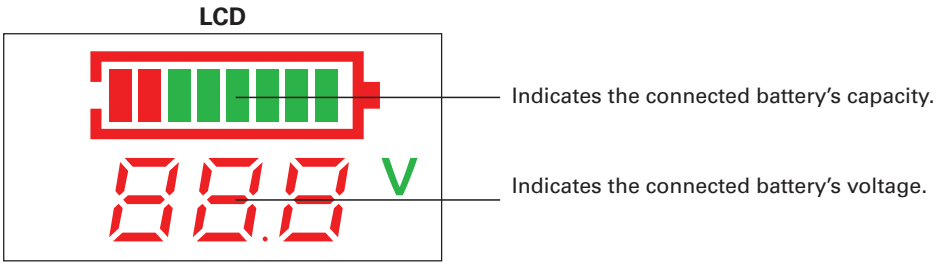
Model	BU-1500	BU-2000
Rated Power	1500W	2000W
Surge	3750W	4000W
Input Voltage	12VDC	
Output Voltage	120VAC	
USB Port	5VAC	
Frequency	50/60Hz	
Output Wave	Pure Sine Wave	
Soft Start	Yes	
Cooling Method	Intelligent Cooling Fan	
Protection	Battery Low Voltage/Over Voltage, Over Load, Over Temperature, Short Circuit	
Working Temp.	14°F to 120°F	

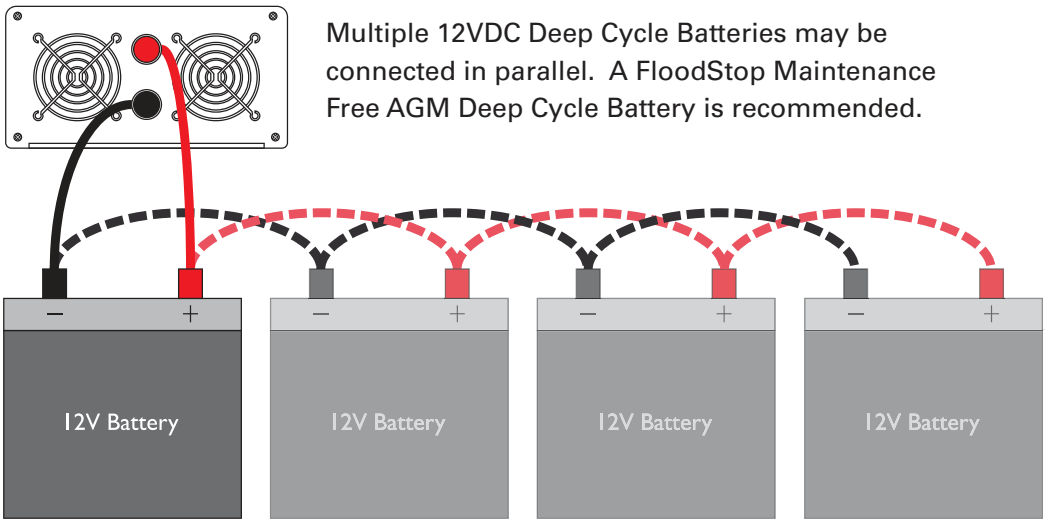
BATTERY OPERATION

When 120VAC household power is available to the Primary Sump Pump Backup Power System, household power is directly routed through to both of the outlet receptacles. When the unit is powered ON (the "Power" indicator LED will be BLUE), the unit will charge the connected 12VDC Deep Cycle Battery if needed. The "Charge" status indicator LED will be RED while charging the battery. The "Full" status indicator LED will be BLUE once the battery is fully charged. When AC power is lost, the Primary Sump Pump Backup Power System will automatically activate and convert the 12VDC input to 120 VAC pure sine wave output at both of the outlet receptacles.

The "Fault" status indicator LED will turn RED when the Primary Sump Pump Backup Power System is overloaded, overheating, receiving low household voltage, or has a short circuit.







BATTERY INSTALLATION

1. Ensure the Backup Power System is powered off and disconnected from both AC and DC power.
2. Remove the Pre-Charge Kit from the positive (RED) battery lead ring. Open the Pre-Charge Kit and wrap one of the resistor wires around the positive (RED) battery lead ring.
3. Using the end not connected to the resistor wire, connect the positive (RED) battery lead to the positive (RED) terminal on the Backup Power System. Tighten the terminal retention knob securely by hand. Do not use any tools to tighten as this may break the retention knob.
4. Connect the negative (BLACK) battery lead to the negative (BLACK) terminal on the Backup Power System. Tighten the terminal retention knob securely by hand. Do not use any tools to tighten as this may break the retention knob.
5. Connect the negative (BLACK) battery lead to the negative (BLACK) terminal on the 12VDC Deep Cycle Battery. Secure the connection per the battery manufacturer's recommendation.
6. Touch and hold the free end of the resistor wire to the positive (Red) terminal on the battery for 3 seconds. Completely remove the resistor wire from the positive (RED) battery lead ring.
7. Connect the positive (RED) battery lead to the positive (RED) terminal on the 12VDC Deep Cycle Battery. Secure the connection per the battery manufacturer's recommendation.
8. Plug the Backup Power System into a 120VAC outlet.
9. Confirm that the power switch is in the OFF position. Plug your sump pump(s) into either of the two 120VAC outlet receptacles.
10. Flip the power switch into the ON position.
11. Allow the Backup Power System to charge the battery until the "Full" status indicator LED is BLUE.
12. Test the AC power functionality by manually activating the connected sump pump(s).
13. Test the DC power functionality by unplugging the Backup Power System from the 120VAC outlet to simulate a power outage. Then, manually activate the connected sump pump(s).
14. Reconnect the Backup Power System to a 120VAC outlet.

WARNING

An optional grounding wire is included to connect the Primary Sump Pump Backup Power System's case to the mounted wall.

BATTERY TROUBLESHOOTING

WARNING

Always disconnect the power unit from power sources before handling. This guide is designed to help identify reasons for potential operating problems. It is not a service guide. Dismantling of the Primary Sump Pump Backup Power System voids warranty. Servicing of power unit should be referred to FloodStop.

"FAULT" STATUS INDICATOR LED IS RED

A RED "Fault" status indicator LED is a sign of system trouble. Make sure that the cooling fans are clear of any obstacles and debris. Check your household voltage to make sure it is at least 110VAC. If you are using both outlets, make sure the combined current draw of the connected devices does not exceed 16.6 Amps on a continuous basis. The Power Unit will automatically shut down, an alarm will sound, and the "Fault" status indicator LED will turn RED when the load exceeds 16.6 Amps.

LOW VOLTAGE ALARM

When the Battery voltage drops below 10VDC, an audible alarm will sound to indicate that it needs to be recharged

AC FUSE REPLACEMENT

To replace the AC fuse, remove the fuse panel shown in Figure 1. A flat-head screwdriver may be needed. The replacement fuse and the in-use fuse are both marked in Figure 2.

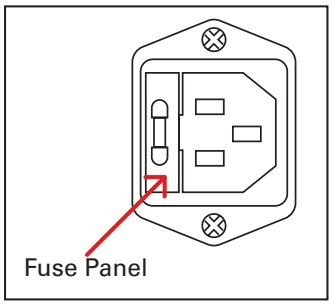


Figure 1

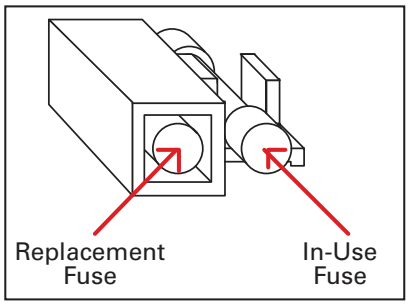


Figure 2

BATTERY MAINTENANCE

The Primary Sump Pump Backup System should be checked frequently for debris and/or build up on the cooling fans which may interfere with proper flow to cool the unit during operation. The cooling fans should be cleaned with a vacuum to remove any buildup at least every 3 months, or more frequently if the unit is mounted in an area where excess dust or debris my be present.

Deep Cycle Batteries generally last between 3 to 5 years in a sump pump backup installation. It is recommended that the battery is tested every 6 months to ensure it is ready for service.

TERMS AND CONDITIONS OF SALE

Orders for this product are expressly made conditional on buyer's assent to company's terms and conditions of sale, which can be found by scanning the QR code below, or are available upon request by mail. Any terms and conditions in any of buyer's documents that are inconsistent with or add to seller's terms and conditions of sale are hereby rejected and are not binding upon company.

Installed by:

_____

Model:

_____

Date of Installation:

_____

Serial Number:

_____

IPS CORPORATION

500 Distribution Parkway
Collierville, TN 38017
Phone: 800-888-8312
Fax: 901-853-5008
www.ipscorp.com

Warranty

See warranty information for more details.

WARRANTY INFORMATION

Mainline products will be covered by IPS Diversified Products Group ("Seller")'s limited warranty. It is as follows:

Warranty. For a period of one year from the date of shipment**, and provided payments for the products have been made by Buyer to Seller, Seller warrants to Buyer that its products: (i) substantially conform to Seller's published specifications and (ii) are free from defects in material or workmanship. Product performance is limited by the capability of the structure and/or system it is installed in. If a warranted product fails to conform to these warranties, Buyer must promptly notify Seller in writing. For a valid warranty claim, Seller will, at its discretion and at no product charge to the Buyer: (i) repair the product; (ii) replace the product; or (iii) offer a full refund of that portion of the purchase price allocable to the non-conforming product. Warranty repair or replacement by Seller will not extend or renew the applicable warranty period. Buyer will obtain Seller's agreement on the specifications of any tests it plans to conduct to determine whether a product non-conformance exists. Buyer will bear the costs of access for Seller's remedial warranty efforts (including removal and replacement of systems, structures or other parts of Buyer's facility), de-installation, decontamination and re-installation. THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. This warranty allocates the risks of product failure between Seller and Buyer. This allocation is recognized by both parties and is reflected in the price of the products. Buyer acknowledges that it has read this warranty, understands it, and agrees to and is bound by its terms.

**The products listed below have different warranty periods. All other terms of the Limited Warranty set forth herein apply to these products, just the duration of the warranty is different. Duration of the warranty begins at date of shipment.

Studor Products: 3 years
Water-Tite Roofing Products: Life of the current roof system
Roof Top Blox: 20 years
Test-Tite Pneumatics: 2.5 years
AB&A: 6 months
FloodStop Pumps and Smart Accessories: 3 years

What is Not Covered by Warranty. No representative of Seller has authority to waive, alter, vary or add to the scope of the warranty without prior written approval of an officer of Seller. Seller's warranty does not apply to: (i) products impacted by adverse water conditions, extreme weather or temperatures, or other natural conditions; (ii) improper or unauthorized repair, installation or maintenance of the products by a party other than Seller; (iii) use for purposes or under conditions other than those for which designed, or other abuse, negligence, misuse, unauthorized access, or normal wear and tear; (iv) unauthorized attachments, modifications or disassembly; (v) damage during shipping; or (vi) products purchased from unauthorized distributors, resellers or internet sites. Buyer's care in selection, adequate testing at time of installation and proper installation, operation and maintenance of all products is required for adequate performance.

Limitations of Liability. NOTWITHSTANDING ANY PROVISION OF THIS CONTRACT OR THE LAW, IT IS EXPRESSLY AGREED THAT SELLER'S TOTAL LIABILITY FOR ANY DAMAGES, COSTS OR EXPENSES ARISING OUT OF OR RELATED TO THIS CONTRACT OR ITS PRODUCTS, WHETHER BASED IN CONTRACT, WARRANTY, INDEMNITY, TORT/EXTRA-CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AS APPLICABLE, OR, AT SELLER'S OPTION, A RETURN OF AN AMOUNT THAT WILL NOT EXCEED THE PURCHASE PRICE. UNDER NO CIRCUMSTANCES WILL SELLER, ITS OFFICERS, DIRECTORS, EMPLOYEES OR ASSIGNS BE LIABLE FOR ANY OTHER REMEDY, LOSS, COST, DAMAGE OR EXPENSE WHETHER DIRECT OR INDIRECT. IN NO EVENT WHATSOEVER WILL SELLER BE LIABLE FOR ANY CONSEQUENTIAL, LIQUIDATED, EXEMPLARY OR PUNITIVE DAMAGES, INCLUDING BUT NOT LIMITED TO, LOSS OF USE, INCOME, PROFIT, OR PRODUCTION; INCREASED COST OF OPERATION; SPOILAGE OR DAMAGE TO MATERIAL OR DATA; OR CHANGE OUT COSTS. BUYER WILL INDEMNIFY, DEFEND AND HOLD SELLER HARMLESS FROM ANY LOSS, COST, EXPENSE, DAMAGE, OR CAUSE OF ACTION TO OR BY A THIRD PARTY THAT EXCEEDS THESE LIMITATIONS OF LIABILITY.

**Effective July 1, 2023, due to an update in California law, the start date for product warranties will now be aligned with the date of delivery of the product. This change is for all Mainline products purchased on or after July 1, 2023 by California consumers. (California Legislative Information AB-2912)*