

# PITBOSS+

WIFI CONNECTED BATTERY BACKUP PUMP

## 12 VOLT BATTERY BACKUP SYSTEM WITH AUTOMATED 24 HOUR REMOTE MONITORING

### INSTALLATION AND OPERATING INSTRUCTIONS



**PitBoss+**  
**Model #PBP12**

### SPECIFICATIONS

#### 12 VDC Sump Pump

Power Supply Requirements	12 VDC
Motor	Brushless DC
AMP Rating	18 Amps
Temperature Rating	40°F to 120°F
Discharge	1 1/2" NPT
MAX Flow	3000 GPH

#### System Solid State Pump Controller

Power Supply Requirements	120 VAC, 60 Hz, 15 AMP
Electrical Ratings	12 Amps @ 120 VAC; 18 Amps @ 12 VDC
Relative Humidity	0% to 80%
Storage Temperature	0° to 70°C
Operating Temperature	0° to 50°C

The PitBoss+ System requires a 12V Deep Cycle Battery (not included), 40 amp/hr minimum, 75 amp/hr or higher recommended. SLA/AGM Battery strongly recommended.

## 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.

PitBoss+ Tech Support: 1-269-743-2260

# 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 and caution.



## 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 and battery 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 PitBoss+ 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 PitBoss+ 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.

# UNPACKING

Inspect this unit before beginning installation. Occasionally, products are damaged during shipment. If the pump or any components are damaged, contact Richtech Industries for replacement.



**The PitBoss+ System requires a 12V Deep Cycle Battery with a minimum 40 AMP/HR rating, 75 AMP/HR rating (or higher) recommended. AGM Battery is strongly recommended.**

# INSTALLATION



## WARNING

### BEFORE INSTALLING BACKUP PUMP



**WARNING! Turn power to main pump off!**

**WARNING! Electric shock hazard. DISCONNECT power before servicing.**



- Backup Pump must be installed using 1-1/2 in. rigid PVC pipe!
- DO NOT over tighten or cross-thread plastic fittings or check valves.
- Check valves MUST be installed in the discharge line of both the main AC pump and the back-up DC pump.
- Installation of this unit MAY take several hours. Before disabling your main pump, have a standby pump ready or an appropriate means of evacuating the sump basin.
- Verify that the existing AC pump is in good working order. If the AC pump is questionable, replace.
- Remove any debris from the sump pit and surrounding area.

The PitBoss+ System can be installed with a separate discharge line (Method 1), or connected to an existing discharge line (Method 2).

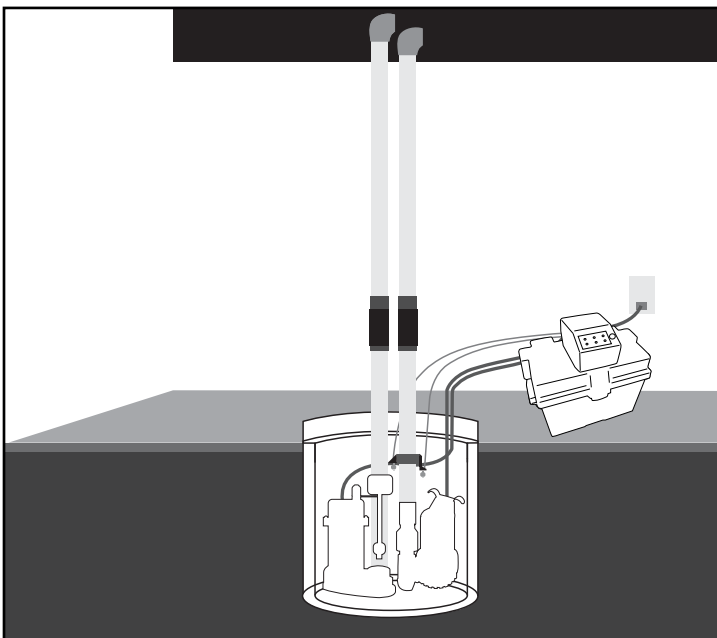
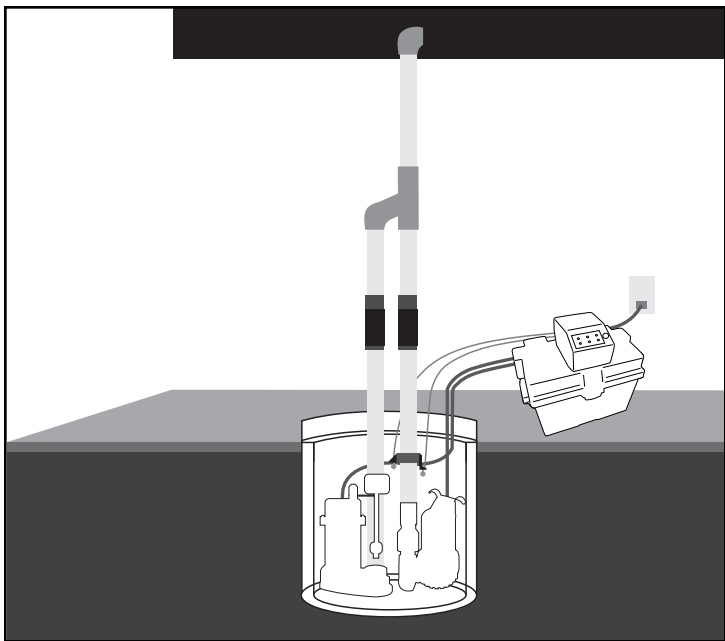


FIGURE 1- Separate discharge line

### METHOD 1 (Separate discharge line) - See Figure 1

1. The backup pump has a 1-1/2 in. NPT discharge.
2. Cut a 3 ft. section of 1-1/2 in. rigid PVC pipe. Glue 1-1/2 in. pipe to a threaded fitting.
3. Screw pipe from step 2 into pump discharge.
4. Place the pump with the 3 ft. section of PVC pipe on a solid, level surface in the sump pit. Do NOT place the pump on a loose or sandy surface. Small stones or sand may damage the pump resulting in pump failure.
5. Attach a check valve (sold separately) to the top of the discharge pipe. A check valve is required for proper operation of system.

The remainder of the discharge pipe installation will vary depending on individual circumstances. Using sound plumbing practices, route the discharge pipe to an exterior wall by the shortest path. Keep turns to a minimum because they reduce flow output of the pump.



**FIGURE 2- Connecting to existing discharge line**

## **METHOD 2 (Connecting to existing discharge line) - See Figure 2**

If a separate, dedicated discharge is not desired as in Method 1, the Backup Pump can be tied into the main pump's discharge pipe by installing a "Y" connector. Two check valves will be required.

1. This pump has a 1-1/2 in. NPT discharge.
2. Cut a 3 ft. section of 1-1/2 in. rigid PVC pipe. Glue 1-1/2 in. pipe to a threaded fitting.
3. Screw pipe from step 2 into pump discharge.
4. Place the pump with the 3 ft. section of PVC pipe on a solid, level surface in the sump pit. Do NOT place the pump on a loose or sandy surface. Small stones or sand may damage the pump resulting in pump failure.
5. Attach a check valve (sold separately) to the top of the discharge pipe. A check valve is required for proper operation of system.
6. Duplicate the discharge piping arrangement for the primary AC pump if the existing discharge line has to be adjusted to accommodate a second pump.
7. Glue a 45° elbow to the pipe on the Backup DC Pump. Glue a "Y" adapter to the pipe on the main pump, as shown in illustration for Method 2.
8. Glue a short piece of PVC pipe between the 45° elbow and the "Y".



### **THE CHECK VALVES FOR BOTH PUMPS MUST BE INSTALLED BELOW THE "Y" FITTING!**

The remainder of the discharge pipe installation will vary depending on individual circumstances. Using sound plumbing practices, route the discharge pipe to an exterior wall by the shortest distance.

## **AFTER PLUMBING IS COMPLETED, FOR BOTH METHODS 1 AND 2:**

Install float sensors at least 10" - 12" above bottom of sump pit, making sure that the sensors are at least 1" - 2" higher than the normal "on" level for main pump

Make sure power wires and hose clamp ends do not interfere with float switches or pump operation. Failure to position properly may cause improper operation. Position all switches so they will not interfere with any portion of the plumbing, wiring, or sump pit.

## **BACK-UP PUMP OPERATION:**

1. The backup pump will turn on when either the bottom or top float sensor rises and is engaged for 3 seconds.
2. The backup pump will keep running for 10 seconds after the float sensor drops.
3. Your PitBoss+ system activates and tests the backup pump and battery health at least 3 times per week.



**WARNING! PitBoss+ System TESTS MAY OCCUR AT ANY TIME. THE BACKUP PUMP MAY CYCLE AT ANY TIME WITHOUT NOTICE.**

## **NOTICE**

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.

## CONNECTING THE PITBOSS+ CONTROLLER



1. Install the Backup Pump using good plumbing practices. Both the Primary and Backup pumps should be set on the bottom of the basin.
2. Open the battery case and place 12 Volt battery inside.
3. Connect the PitBoss+ controller to the battery. Black to – (negative), Red to + (positive). Replace and lock the lid onto the battery case. The PitBoss+ system will initialize and boot up. All status LEDs will initially be GREEN. Within 90 seconds, the Power status LED will turn RED. The WiFi status LED may alternate between RED/Green as the controller searches for a local WiFi signal.
4. Install the switches for the primary pump and backup pump. The ON level of the lowest backup switch should be approximately 1" - 2" higher than the ON level of the primary sump pump.
5. Connect the Backup Sump Pump to the Controller's white jack.
6. Connect the backup switches to the PitBoss+ Controller's color coded jacks.
7. **VERY IMPORTANT!** Connect the Main Sump Pump to the PitBoss+ controller using the AC outlet located on the back of the controller. **DO NOT CONNECT THE MAIN PUMP TO AN AC WALL OUTLET.**
8. Plug the PitBoss+ controller into an AC wall outlet. The Power status LED will turn green. Consult your local codes for GFCI requirements. **THE CONTROLLER POWER CORD IS THE ONLY POWER CORD THAT PLUGS INTO AN AC WALL OUTLET. ALL OTHER CONNECTIONS PLUG INTO THE CONTROLLER.**
9. The PitBoss+ system is now ready for alert testing.



### TEST THE SYSTEM IN THIS ORDER! IT'S RECOMMENDED TO RUN INITIAL CYCLES WITH WATER AND CHECK ALL PLUMBING FOR LEAKS DURING TESTING.

Lift the lowest Battery Backup switch and hold. Release when the battery backup pump cycles. The BACKUP PUMP status LED will remain GREEN. The MAIN PUMP status LED will turn RED and the alarm will sound. Press ALARM MUTE to silence, if desired.



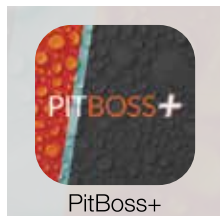
### REFILL BASIN WITH WATER.

Cycle the Primary Sump Pump. The alarm will stop and the MAIN PUMP status LED will turn GREEN.

The WiFi status LED will turn GREEN after the completing the WiFi setup with the PitBoss+ app. WiFi connection is detailed on the next page.

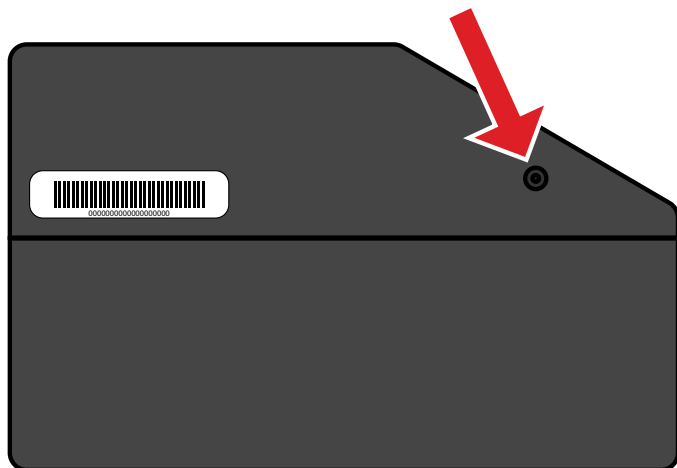


## WIFI CONNECTION



Download the PitBoss+ App from the App Store (iOS devices) or Google Play (Android devices).

Press the WiFi Setup Button (located on the left-hand side of the controller) for 3 seconds. The "WIFI" LED will turn AMBER.



Open the PitBoss+ App and follow the on-screen instructions to connect to a WiFi network.

The "WiFi" LED will turn GREEN when successfully connected.

## STATUS INDICATOR REFERENCE CHART

Use the chart below to identify the message associated with the color of each LED light on the PitBoss+ Controller.

Y = Yellow


R = Red

<b>MAIN PUMP</b>	R	Main Pump Fail - Backup Pump Activated
	R	High Amp Draw - Jammed Pump
	R	Excessive Run Time

<b>BACKUP PUMP</b>	R	Backup Pump Fail
	R	High Amp Draw - Jammed Pump
	R	Excessive Run Time

<b>WATER LEVEL</b>	R	High Water Alert
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<b>POWER</b>	R	AC Outage
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<b>BATTERY</b>	Y	Low Battery - 25% Charge
	R	Critical Battery - 10% Charge
	R	No Battery
		Reverse Polarity

<b>WIFI</b>	Y	WiFi Setup Mode
	R	Offline / Attempting to Connect

## ALARM MUTE BUTTON

- Silences the alarm for 24 hours
- Press and hold for 10 seconds to initiate system test