POWERGUARD
BATTERY BACKUP SYSTEM

MODEL # PZM-PWRGRD-100

SENSORS

CONTROLLER

PUMP

BATTERY BOX

CHARGER

PART NUMBER

CONTROLLER	PWRGRD-CTR-V1
PUMP	AZP-ALP-DCPUMP
CHARGER	AZP-PWRGRD-CHARGER
SENSORS	AZP-SENSOR-8SK –2
BATTERY BOX	AZP-PWRGRD-BBATT

SUMPTEK

MODEL# PZM-PWRGRD-1

For Technical Assistance Call:

1-800-407-2076

Between 8am to 5pm CST

OWNERS MANUAL

Thank you for choosing the SumpTek PowerGuard Battery Back-up System. In a few easy steps your system will be operational and ready for use. **Read and save these instructions**. This manual contains important information about your system. Failure to follow safety instructions and warnings could result in injury or death. Read all the instructions before installing or using the system. Always disconnect batteries and AC power source before storing, handling, or making adjustments.

CAUTION

⚠ **DANGER :** Water and electricity can be dangerous if certain precautions are not adhered to. This pump is designed to operate safely in a water environment; however, improper use and/or installation can result in personal harm from electrical shock. Please pay attention to the following warnings.

⚠ **WARNING:** Never touch any electrical device, including this pump, when it is touching water, in water, or even in a moist environment. Always unplug (disconnect the electricity) when working on or installing the unit.

⚠ **WARNING** Always unplug the main pump when installing or servicing the backup pump or float switch to avoid electric shock.

⚠ **WARNING** Do not use in pits handling raw sewage, salt water or other hazardous materials.

⚠ **WARNING** Do not use an extension cord. The electrical outlet should be within the length of the pumps power cord, and at least 4 feet above the floor.

NOTE: Do not use in raw sewage, sanitary, chemical or saltwater applications.

PUMPING CAPACITY

HEAD	GPM
5’	3,670
10’	2,480
15’	1,630

BATTERY RUNTIME

CYCLE	OPERATION
Continous	5.5 hrs
2 Minutes	70 hrs
5 Minutes	168 hrs

5 YEAR WARRANTY

BATTERY PRECAUTIONS

Use extreme caution when installing, servicing and disposing of batteries. All performance testing on this battery backup system was done with a 120AH maintenance free battery (Group 27), using any battery with a lower rating will decrease both runtime and pumping performance.

⚠ **CAUTION:** Do not dispose of batteries in a fire. The batteries may explode. CAUTION: Do not open or mutilate the batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

⚠ **CAUTION:** A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries.

1. Remove watches, rings, or other metal objects.

2. Use tools with insulated handles.

3. Do not lay tools or metal objects on top of batteries.

4. Wear safety goggles and a face shield.

⚠ **CAUTION:** If electrolyte contacts the skin, wash it off immediately. If electrolyte contacts the eyes, flush thoroughly and immediately with water. Seek medical attention. Spilled electrolyte should be washed down with a suitable acid neutralizing agent.

⚠ **CAUTION:** Lead acid batteries can present a risk of fire:

1. **Do not smoke when near batteries**
2. **Do not cause flame or spark in battery area.**
3. **Discharge static electricity from body before touching batteries by first touching a grounded metal surface.**
4. **See battery manufacturers' installation manual for additional installation maintenance, and safety instructions.**

INSTALLATION

Follow these step by step instructions to install the PowerGuard Battery Backup System. If you have any question or need assistance please call 1-800-407-2076.

TOOLS NEEDED:

- Pipe wrench
- Flat head screw driver
- Hand saw
- Tape measure

MATERIALS NEEDED:

- 1.5" Inch Check valve
- Appropriate PVC fittings
- PVC primer and glue

⚠ PUMP INSTALLATION:

CAUTION: Make sure the pump is disconnected from any power source prior to installation.

1. Find a suitable position for the pump that is away from other equipment that can obstruct its operation such as the primary pump, switch or even the drain tile.
2. When sharing the same discharge pipe you must use a separate dedicated check valves with each pump to prevent the water from cycling back into the pit as shown in (Figure A) below
3. Using PVC piping and check valve connect the pump to the existing or a dedicated discharge pipe as shown in (Figure B).

FIGURE A:
SINGLE DISCHARGE

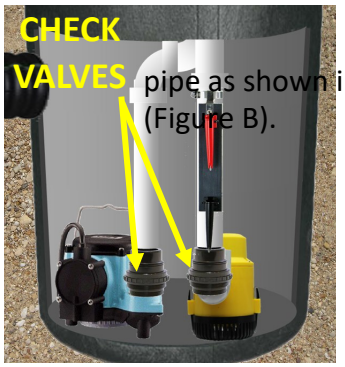


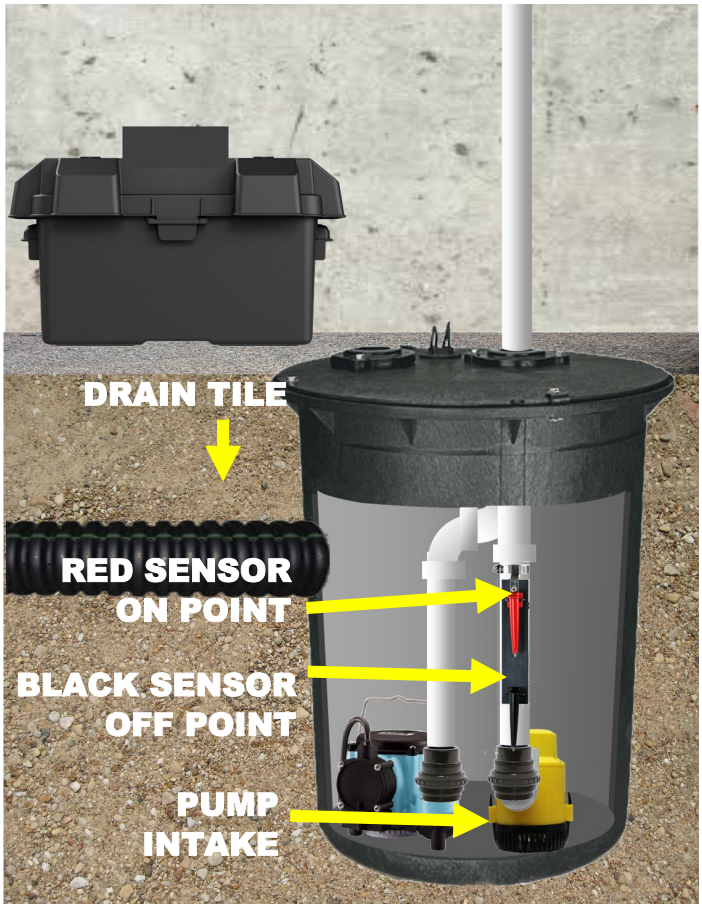
FIGURE B:
DEDICATED DISCHARGE

SENSOR INSTALLATION

IMPORTANT: The sensors will turn the pump ON and OFF once the water reaches the metal tip on the **bottom** of the sensor. Keep this in mind when you are positioning the sensors onto the discharge pipe.

For ease of installation and maintenance the ON and OFF sensors for the PowerGuard have been pre-mounted to the bracket with a stainless steel house clamp.

NOTE: the bottom of the red sensor should be positioned above the normal ON point of the primary pump. Mount the sensors away from the incoming water to avoid false triggering of the system as shown in figure below



ADJUSTING SWITCH ON/OFF POINT: Remove bot-black sensor from bracket using snips. Position the black sensor to your desired location below the red sensor, use the tie strap provided with system. **(DO NOT POSITION BELOW PUMP INTAKE)**

CONTROLLER INSTALLATION

1. Pull the battery cables through the large circle opening on the face of the battery box
2. Align the predrilled holes on the controller to the holes on the battery box.
3. Push the bolts through the controller holes into the battery box holes and tighten wing nuts.
4. Make sure the controller is securely fastened to the battery box

CONNECTING THE BATTERY:

1. Follow all safety instructions and precautions in both this manual and per the battery manufacture.
2. Place the battery into the battery box with the posts facing the front of the box.
3. Connect the black negative (-) ring terminal to the negative (-) post on the battery.
4. Connect the red positive (+) ring terminal to the positive (+) post on the battery.
5. Fasten securely using an insulated wrench
6. The system should now come on

CONNECTING THE COMPONENTS:

PUMP: Connect the pump cables by sliding the larger positive (+) terminal onto the larger positive (+) pump receptacle on controller. Slide the smaller negative (-) terminal onto the smaller negative (-) pump receptacle on the controller.

SENSORS: Connect the sensor plug into the top left side of controller.

CHARGER: Connect the charger unit into the AC Power receptacle on the left side of the controller and then into the wall.

OPERATION

WHEN WILL THE SYSTEM OPERATE:
In any event that your primary sump pump can not operate due to failure or loss of power the Power-Guard Battery Backup System will operate using battery power to prevent flood damage.

HOW WILL THE SYSTEM OPERATE:
Once the water reaches the bottom tip of the top RED sensor, the pump will turn ON pumping the water down until it reaches the bottom tip of the BLACK sensor and shut OFF. This is known as a pump cycle. If the bottom sensor fails, the top sensor will operate the pump in 12 second cycles.

COMMON ALARMS

PUMP ACTIVATED
When the pump operates you will hear an audible alarm. Check the system to make sure it is operational and in good working order. If the power is on, check your primary pump, outlet and breaker for failure. To silence the alarm simply press the silence button one time until you see the screen flash (do not hold the button down). This will silence the alarm for a period of 24hrs.

AC POWER FAILURE:
In the event of a power failure the unit will wait 15 minutes after it detects loss of power to sound an alarm. This will avoid nuisance alarms when the power turns off only for a few seconds or minutes. If the system detects water during the 15 minute period an alarm will sound to indicate the pump is running.

Once power is restored the unit will begin to charge the battery and then go back to stand-by mode.

IMPORTANT NOTE:
For every different alert the alarm will sound, even more than once, if you pressed the silence button. ***The system only alerts when it recognizes potential threats that WILL lead to flooding (DO NOT UNPLUG THE SYSTEM OR IGNORE ANY WARNING SIGNS).***

EMERGENCY ALARMS

LOW BATTERY:
When the system is running the battery will drain down. Once it reaches 11.2V an alarm will sound and "Low Battery" will appear on the LCD screen. The pump will still operate but, **take caution and be prepared with an alternate source of power such as another fully charged battery or a generator to plug your primary pump into.**

CRITICAL BATTERY VOLTAGE:
If your system sounds an alarm for critical battery voltage, the battery is critically low and **WILL LEAD TO BASEMENT FLOODING**

HIGHWATER ALARM:
If the pump is running continuously and the storm water is not dropping below the red sensor after 30 seconds the system will sound an alarm and the LCD screen will display High Water. **This may result in flooding.**

PUMP FAILURE:
The DC pump has failed and can not pump water out of your basement in an emergency. Replace pump immediately.

TESTING

SELF TESTING:
Once a week the system will run a diagnostic test of the entire system. During the self test the pump will run for a period of 10 seconds to ensure proper operation. If there is an issue detected during the self test an alarm will sound and a message will be displayed on the LCD screen to indicate the type of failure.

MANUAL TESTING:
To manually test your system simply hold down the Alarm Silence/Test Button for 10 seconds. The LCD screen will flash and indicate system testing. Once the diagnostic test is complete the LCD will display System OK or indicate failure if present.

WARRANTY

Kasco the parent company of the Sumptek brand warrants that the pumps its manufactures are free from all factory defects in material and workmanship for a period of 5 years from the date of purchase. The date of purchase shall be determined by a dated sales receipt noting the model and serial number of the pump. The dated sales receipt must accompany the returned pump if the date of return is more than 5 years from the "CODE" (date of manufacture) number noted on the pump name plate.

The manufacturer's obligation under this Warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided the part or assembly is returned freight prepaid to the manufacturer or authorized service center, and provided that none of the following warranty-voiding characteristics are evident:

The manufacturer shall not be liable under this Warranty if the product has not been properly installed; if it has been disassembled, modified, abused or tampered with; if the electrical cord has been cut or spliced; if the pump discharge has been reduced in size; if the pump has been used in water temperatures above the advertised rating; if the pump has been used in water containing sand, lime, cement, gravel or other abrasives; if the product has been used to pump chemicals or hydrocarbons; if a non-submersible motor has been subjected to excessive moisture; or if the label bearing the serial and code number has been removed.

Kasco shall not be liable for any loss, damage or expenses resulting from installation or use of its products, or for consequential damages, including costs of removal, reinstallation or transportation.

There is no other express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to three years from the date of purchase. This Warranty contains the exclusive remedy of the purchaser, and, where permitted, liability for consequential or incidental damages under any and all warranties are excluded.

SILENCING & TESTING

Silencing the alarm	First reference the alarm in the table below, to silence alarm press the alarm silence/ test button once **(DO NOT HOLD)**. This will deactivate the alarm for a period of 24hrs.
Manually testing the system	Hold the Alarm Silence/Test button down for 10 seconds, the system will start a diagnostic test and run the pump for 10 seconds
Manually testing the auxiliary contact	Hold the Alarm Silence/Test button down for 15 seconds, the unit will send an alert signal to the auxiliary contact. ***Note:*** *This will activate the FloodProtext WiFi Module.*

INFORMATIONAL MESSAGES

System OK	Displayed when no alarms are active and the system is not running	System is working properly
Batt Volt	Shows the battery voltage in real time, voltage range between 13.4 and 14.2.	Battery is working properly

EMERGENCY DISPLAY MESSAGES

AC Power Failure	Displayed when the system loses AC power	If power in the house is on, check that the unit is plugged in or the GFI/breaker has
Batt Leads Revrs	Battery RED/BLACK leads are reversed	Connect leads to correct terminals
Blown Fuse	Pump fuse on controller has blown	Replace with another 20Amp fuse
Pump Activated	AC Power is on but system is running	Check your primary pump for failure
Auto Test Fail	System did not pass auto test	Check display for additional messages and/or call for service

CRITICAL EMERGENCY DISPLAY MESSAGES

Battery Low	Battery voltage has dropped below 11.4V	Extended power or primary pump failure, prepare to replace.
Battery Critical	Battery voltage has dropped below 10.2V	Replace battery immedialty.
High Water	System has failed or is not keeping up with the incoming water intake	Replacement battery and/or sump pump immedialty, **YOUR BASEMENT IS AT A CRITICAL RISK OF FLOODING.**
Pump Failure	System is ok but pump isn't running	Check pump connections or inspect pump