

A Comparison with Competitor's Specifications

The Mudjacker's
Basement Solutions

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PONI® POWERGARD

Clean, Fully Automatic, Instant Emergency Power For Sump and Immersible Pumps

PERFORMANCE FEATURES	PONI® POWERGARD SYSTEM
Pumping Capacity (gal./hr. @ 10 ft.)	*Up to 3000 gal./h. with 1/3 Hp pump *Up to 5000 gal./hr. with 1/2 Hp pump
Pumping Time Expandability	Multiple batteries in parallel increase pumping time
Battery Charger Capacity	20A multi stage charger
System Recharge Time	10 hours when using BC 27 group size battery
Installation Comparison	Works with pumping equipment that may already be installed
Versatility Comparison	Can be used with pumps of various capacities
Space Occupancy Comparison	Occupies no space in the sump pump



FEATURES AND BENEFITS OF PONI® POWERGARD

Operates with existing equipment translates into:

- *Optimum performance
- *Without the installation of additional pumps

Not restrictive to a single brand or pump style

Easy Hook Up
 (No special tools or wiring necessary, plugs into standard wall outlet)

Automatic Power Transfer
 (You do not have to be present to make it work)

Maintenance Free Operation
 (Needs no fuel, has no moving parts)

Automatic Recharge
 (You do not need to remember to recharge the battery)
 (You do not need an additional battery charger)

Battery Monitor
 (Notifies you when your battery needs changing)(Informs you of state of recharge)(Audible tone sounds prior to completion of battery drain)

Output Power Indicator
 (Confirms that pump sentry is delivering power)

Silent and Clean Operation
 (can be kept in home basement or utility room)

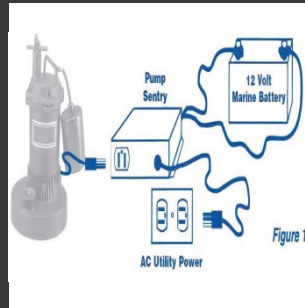
Enables the combination of column and submersible pumps without special additions
 (no check valves or switches)

Comprehensive Instruction
 Manual and Factory Support(Unconditional 2 Year Warranty on PONI® POWERGARD only)
 (no warranty is implied for misapplication - see instruction manual for correct usage)

HERE IS HOW THE PONI® POWERGARD WORKS

PONI® POWERGARD is an innovative power station designed to operate your pump during a power outage. Figure 1 shows the Pump Sentry's simple interconnection between sump pump, battery and power line.

When electricity is present, the PONI® POWERGARD Charges a 12-volt battery and monitors the power line. At the instant that a power failure occurs, the Pump Sentry converts the energy stored in the battery to AC power to operate your pump. When AC utility power is restored, the PONI® POWERGARD automatically switches your pump back to AC utility power, recharges the battery, and resumes monitoring the power line.



In the absence of electricity, PONI® POWERGARD will convert power from a deep cycle marine battery(ies) to operate a sump pump. Under typical duty cycle conditions, using a single BCI group size 27 battery, such operation can be maintained for approximately 20 hours. To obtain even more back up time larger batteries or multiple battery banks can be configured (see Figure 2 for multiple battery parallel configuration). Back up time is directly proportional to battery capacity.

How to Calculate Operating Time During Power Outage

Operating time will depend on the following:

- 1) The size of the battery bank i.e. its total Ampere-Hour (A-hr) capacity. Ampere-Hour capacity is calculated by adding the A-hr ratings of all the batteries in the battery bank where the batteries are connected in parallel. (For Parallel Connection See Fig. #2)
- 2) The current draw for the pump in Amps (C). This can be read off the nameplate on the sump pump
- 3) The average operating duty cycle of the system. The duty cycle of a system is the ratio of its "on" time to its "on" time plus "off" time. For example: If a pump will work for 10 seconds and is then off for two minutes (120 seconds) its duty cycle is calculated as follows:

$$\text{Duty Cycle} = \frac{10}{(10 + 120)} = 0.077 = D$$

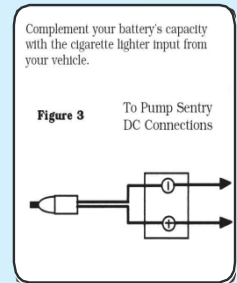
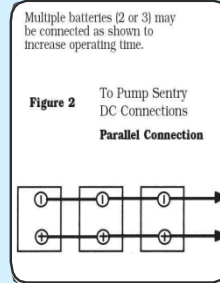
Once (1) (2) and (3) are known, the operating time of the PONI® Powergard ours can be calculated by the formula:

$$T = \frac{A - \text{hr}}{(C \times 10 \times D)}$$

An example of a typical sump pump system with:

- 1) 1 Battery rated 90 A-hr., A-hr = 1 x 90
- 2) A sump pump that draws 9 Amps, C = 9
- 3) Duty cycle which operates 10 seconds "on" followed by 3 minutes (180 seconds) "off," D = 10/ (10+180) = 0.053

$$T (\text{hours}) = \frac{1 \times 90}{(9 \times 10 \times 0.053)} = 19$$



Battery Installation

Installation of batteries should be performed or supervised by a person knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries. For recommended batteries, use models conforming to Battery Council International (BCI) group size 27 or larger. Deep Cycle Marine Batteries are recommended. DO NOT use car batteries. Multiple batteries may be connected as shown in Figure 2 to increase back up time.

Battery Box

Your selected battery(ies) should be stored in a high quality plastic or metal battery box with a lid that is designed for the box.

Installation Location

In a typical installation, the PONI® POWERGARD should be mounted on the wall, above the sump pit or crock, and in accordance with all applicable local electrical codes. It should be in close proximity to a grounded AC outlet and the battery box (between 2 – 4 ft.).

ELECTRICAL SPECIFICATION	822PS	1622PS
Input Volts	120 VAC; 60 Hz.	120 BAC; 60 Hz.
Maximum Continuous Output Power	1200 Watts	1800 Watts
Start Up Surge Capacity (3 seconds)	25 Amp.	33 Amp.
AUDIO INDICATORS		
Audible Alarm – Imminent Shutdown	When batter level has declined to 10.8V	
VISUAL LEDS		
Active When Lit	Indicates that power is present at the output receptacle	
Bulk Charge	High Recharge State	
Float Charge	Low Recharge State – Battery Almost Full	
Fully Charged	Batter is Full – Charging Suspended	
Replace Battery	Battery is Degraded from Long-Term Use	