SEC America, LLC

Pump Sentry™

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

Protection Against Power Failure to Basement Pumps with Simple-to-Implement Pump Sentry

Features and Benefits of Pump Sentry™

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)

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

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)

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

Comprehensive Instruction Manual and Factory Support
(Unconditional 1 Year Warranty on Pump Sentry only)
(no warranty is implied for misapplication - see instruction manual for correct usage)

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Here is how Pump Sentry™ Works

Pump Sentry 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.

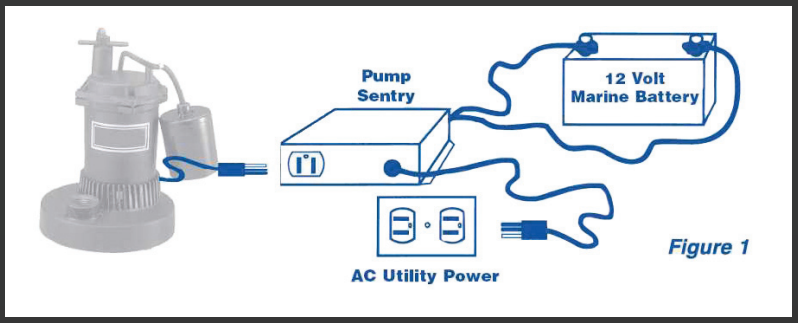


Figure 1

When electricity is present, the Pump Sentry 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 Pump Sentry automatically switches your pump back to AC utility power, recharges the battery, and resumes monitoring the power line.

In the absence of electricity, pump sentry 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 a pump sentry in hours can be calculated by the formula:

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

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

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

In 10 seconds the average 1/3 hp. sump pump will evacuate approximately 10 gallons of water.

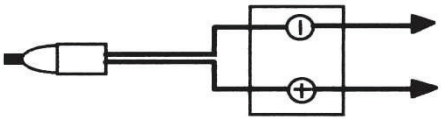
Multiple batteries (2 or 3) may be connected as shown to increase operating time.

Figure 2 To Pump Sentry DC Connections

Parallel Connection

Complement your battery's capacity with the cigarette lighter input from your vehicle.

Figure 3 To Pump Sentry DC Connections



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.

When installing batteries, use models conforming to Battery Council International (BCI) 27 DC specifications for Group 27 Deep Cycle Marine batteries. At the time of this publication, the following model batteries in that group are recommended. At the time of purchase, verify that these models, or any other model, conform to BCI 27DC specifications for Group 27 Deep Cycle Marine Batteries.

Die Hard	**Model 27524**	**US Battery**	**Model US27DCXC**
Exide	**Model NC-27**	**West Marine**	**Model DC 27**
Interstate	**Model SRM-27**	**Motocraft**	**Model BH-29MDC**
Metropolitan	**Model 27T-36**	**Everstart (Walmart)**	**Model 27DC-6**
NAPA	**Model 8270**	**AC Delco**	**Model M27MF**
PEP BOYS	**Model 27-850**	**Autozone**	**Model 27MDC-2**

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 Pump Sentry 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 and 4 feet).

A Comparison with Competitor's Specifications

Performance Features	812PS Pump Sentry System	12 VDC Auxiliary Systems
Pumping Capacity (gal/hr. @ 10 ft.)	Up to 3000 gal./hr. with 1/3 Hp pump	768-1600 gal./hr. (varies with brand)
Pumping Time Expandability	Multiple batteries in parallel increase pumping time	Unspecified
Battery Charger Capacity	15A multi stage charger	0.4A to 10A (varies with brand)
System Recharge Time	10 hours when using BC 27 group Size battery	10 hours to 170 hours with recommended battery (varies with brand)
Installation Comparison	**Works with pumping equipment That may already be installed**	**Must be added to the pumping equipment already in the pit**
Versatility Comparison	**Can be used with pumps of various capacities**	**1100 gal. capacity is the maximum**
Space Occupancy Comparison	**Occupies no space in the sump pit**	**Adds clutter to the sump pit**

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