

April 1, 2013 Blog

Off The Grid Power: Could You Endure A Power Outage?

Have you thought about what would happen if the power were to go down due to a natural disaster or other interruptions? Are you ready to live "Off The Grid" for any length of time?



We have recently been reminded of how power outages occur for extended periods of time in our nation due to severe winter storms such as super storm Sandy and even locally.

There are several options to replace our "normal" plug in the cord or flip on the switch sources of power. A few of the most popular are:

- Fossil Fuel Generators
- Lead Acid Batteries and Solar
- Lithium Silent Batteries and Solar



Fossil Fuel Generators

Fossil Fuel Generators are an inexpensive way to provide power.

The number one thing that sells out when people are desperate for power in an emergency is a gas generator.

Things to consider in regards to a fossil fuel generator:

- Gas is very volatile and difficult to store. (Always store fuel away from your home in a shed or an out building.)
- Obtaining fuel may be a huge problem in an emergency situation.
- Portable generators are not designed to be used in the rain or snow.
- When operating a portable generator do not place in your garage or near your homes windows or doors to

avoid poisonous fumes.

- Some generators may damage sensitive equipment in your home. Be sure to check out the recommendations in the owner's manual.
- In a disaster a maintenance contractor may not be available for repairs. It will be up to you to do any repairs, maintenance, resetting of the engine or getting the engine started.
- Smaller generators may need to be serviced every 50 hours or every 2 days and 2 hours if used 24/7.
- You need to store lubricating oil and spare parts for your generator.
- Noisy. Said to be one of the first things to be stolen in an emergency.
- When you buy a fossil fuel generator buy **quality** equipment.

Read your owner's manual before you need to use your fossil fuel generator and know the basic operations.

Permanently Installed Home Stand By Generator



A Permanently installed home stand by generator is not a guarantee that you will have power. Most are powered by natural gas. You are using one utility to back up another utility.

Usually during an electrical power outage natural gas demand spikes. Natural gas is moved by compressors through the pipeline using one of three methods:

Natural Gas Turbine

A small portion of natural gas from the pipeline is burned to power the turbine.

Electric Motor/Centrifugal Compressor

The centrifugal compressor is driven by a high voltage, electric motor. A highly reliable source of electric power must be available and near the station, for such units to be considered for an application.

Reciprocating Engine/Reciprocating Compressor

These large piston engines resemble automobile engines, only many times larger. These engines are fueled by natural gas from the pipeline.

Drops in pressure in the natural gas supply will cause an engine to stop running.

Permanent generators must be checked on a regular basis. In an emergency it will be up to the owner to do this.

Silent Generators (No Fossil Fuels Used)



Comparison of Lead Acid and Lithium Based Battery Using The Humless Sentinel As The Lithium Based Model.

What makes the Humless Sentinel different and better than any other similar portable battery power pack is it's lithium iron phosphate (LiFePO4) battery. Not only is it lighter weight than a system with lead acid batteries but the lithium battery will provide more power per pound than the sealed lead acid batteries which are primarily used in other comparable systems. That means more power output in a smaller lighter box.

When it comes to longevity a lithium battery wins hands down both in the number of times the Sentinel's battery can be charged and discharged and the life in years it will last. The Humless Sentinel's battery can be charged 4-6 times more in terms of cycle life, (2000+ cycles vs. 400-800 cycles) compared to similar capacity lead acid batteries.

Its lithium battery can also sit in storage for a year or more without needing to be recharged every few months and doesn't need to be on a constant trickle charge to maintain its health like a lead acid battery. Most power pack batteries of the lead acid variety are lost to neglect and from not being maintained in a charged state than from being worn out from actual use. The Sentinel's lithium battery technology preserves your investment without having to babysit it when it's not in use. Just charge it minimally once a year and it will be ready to use when you need it. If kept charged and well maintained it should last up to 10 years waiting for service. Better yet, use the Humless with the solar panel daily to run your small appliances and cut your monthly electric bill by being partially off the grid.

The Humless Sentinel can be charged multiple ways from a regular AC wall outlet or from 12v alternative DC power sources such as solar panels, a pedal or hand crank dynamo, a wind turbine, a DC car outlet, or other 12V DC power generating devices. The Humless Sentinel stores the captured power in a state of the art Lithium Battery pack to be taken with you and used whenever or where ever you might need it.

The Humless Sentinel's built in 1000 watt **pure sine** 110V AC inverter is accessible through two built in outlets. Two 12VDC 10 Amp car type power outlets are also available as are 4 USB ports to allow you to easily charge or power whatever devices or appliances you need. Whether you need to power a laptop, computer, medical device like a CPAP or BiPAP, run a fan or lights during an emergency or power outage, or simply watch a movie in the great outdoors, the Humless Sentinel will give you the power you need when you need it.

The **Humless Sentinel** is a silent lithium based backup power supply. The Humless Sentinel stores captured power in a state of the art Lithium Battery pack to be taken with you and used whenever or where ever you might need it.

- Power a fridge, laptop computer, lights, TV, etc. during an emergency or power outage.
- The whole package weighs in at 40 lbs. and is portable enough to take wherever you want to go.
- No noise, gas or harmful emissions. Quiet, safe power to use inside your home, car or tent.
- No need for any inverters or adapters. Just plug it in and switch it on!
- Lithium battery can sit for over a year without needing to be charged.

Specifications

- 50Ah Lithium Battery provides 600Wh of power using DC
- **Battery rating:** 2,000 complete charge/discharge cycles
- Battery shelf-life 10 Years
- Battery charge time 2.5hrs (from a fully discharged battery-pack)
- Integrated 20A smart-charger with PWM high efficiency charging
- 1000W Continuous / 2000W peak 120VAC Output (**Pure Sine Wave**)
- Integrated battery protection / charge control module
- Dual fusing for maximum overload and short circuit protection
- USB 2 x 5V @ 500mA / 2 x 5V @ 2100mA

Outputs:

- (2) 110VAC outlet; (2) 12VDC Outlet; (4) USB Outlets

Inputs:

- Universal input for 12VDC charging; (2) DC socket inputs;
- Socket for AC charge chord (100-240VAC)

Check out these short videos on the Humless You Tube Channel

<https://www.youtube.com/user/HumlessPower>

All Humless products can be purchased through PreparedNest. Contact Cheryl and Greg at hello@PreparedNest.com for more information.