

June 2007

Power Backup Systems for Your Home.

As promised from a previous safety meeting, a couple of options to protect your home in the event of a power failure. These options are for the most serious, protecting your home in the winter but could be extended for other interests.

Two (2) options are available for the average person to assist with power requirements in the event of a “brown out” or power outage during an Alberta winter.

A reasonable, new furnace (mid efficiency) has the following electrical requirements:

Purge blower starts to purge fire box:	2.75 Amp @ 120 VAC
Furnace starts to heat exchanger	5.0 Amps @ 120 VAC
Blower Starts to circulate heat	10+ Amp surge @ 120 Volts
Blower and furnace on line	7.2 Amps @ 120 VAC

The supply system must be able to handle the 10+ amps @120VAC (1200Watts) surge and supply 900 Watts at a duty cycle of 80% continuous power for the furnace to operate correctly and not to overload the backup system.

This is why the 1500W generator or 2000W inverter system

The furnace will run for the required time the shutdown normally.

When main power is restored switch the “alternate power” switch back to normal.

Option 1

Purchase a 1500 Watt Honda generator.

Honda Mdl. EZ1800C \$1050 offers good regulation

Honda Mdl. EU 2000iC \$1699 offers pure sine wave inversion

These items can be purchased from Honda Extreme, (Edmonton)

Have an electrician wire an alternate source switch at your furnace and alternate power feed from outside. Because the generator is gasoline driven, it will be necessary to locate the generator outside the house when required to operate.

Option 2

Purchase a passive system consisting of storage batteries, sine wave inverter and charging system.

Have an electrician wire an alternate source switch at your furnace and alternate power feed from inside the home. Batteries need to be kept approx. room temperature, at least above freezing. The basement or garage would be a good location for batteries / charger / inverter setup.

Option 2 offers the possibility to charge the battery / batteries via solar cells on the roof of your home.

Minimum cost \$800 + Electrical switch and labour

Option 2 with one (1) battery should operate your furnace for approx. 5 hours. A home furnace runs approx 15 minutes every 45 minutes. Therefore heating your home for approx 15 hours. Two batteries would double this. Be aware that batteries have a life span and can go bad just sitting. AGM batteries are good for 8 years+.

Sine Wave Inverter:

Mdl. APS 100012V

2000 Watt “pure sine wave inverter”

\$400 US (free shipping)

EDX Inc

2016 Corporate Drive

Wilmington, NC 28405

Toll Free: **1.866.220.VOLT (8658)**

E-mail: inquiries@voltageconverters.com

High Capacity Charger:

12VDC @ 15 Amp

Price \$130.00

Available for ChrisMar Batteries (Edmonton)

Storage Batteries:

Deep cycle, Mdl. GV-100

\$189.00 each 1 required, 2 for longer outages or more power requirements

12VDC,

Weight 71 lbs.

Life Span 8 years.

Non spillable, AGM Deep cycle (Absorbed Glass Mat) UPS batteries

Transportable, non –hazardous goods

Available for ChrisMar Batteries (Edmonton)



Extreme Batteries are maintenance-free Absorbed Glass Mat batteries that combine cycling ability with sealed, spill-proof construction. Exceptionally reliable, these 12 volt batteries are very resistant to cold temperatures. With a porous envelope to hold the electrolyte against the cell plates, gases can't escape, making Extremes suited for warm temperature applications as well.

Extreme Batteries are ideal for telecommunication sites and remote data collection equipment, as well as providing consistent quality power for UPS and SCADA systems, switch gear and other stand-by applications.

Features:

- . Higher efficiency & charge acceptance - ideal for solar
- . Resistant to abuse and complete discharges
- . Can deliver 600+ cycles @ 50%
- . Non-spillable and non-hazardous goods for easy transportation



Features

Pure Sine Wave Power Inverter
1000 watts continuous power
 1050 watts (20 min)
 2000 watts peak power
 Anodized aluminum case provides durability
 Built-in Cooling Fan
 120 volt AC outlet
 Overload Indicator
 Power ON/OFF Switch
 Optional Remote Switch
 Efficiency 90%

Specifications

Output Wave Form	Pure Sine Wave
No-load draw	< 1.0 amp
Harmonic Distortion	less then 3%
Input voltage range	10-15 VDC
Over voltage shutdown	over 15 VDC
Under voltage shutdown	under 10 VDC
Overload shutdown	Yes
Thermal shutdown	Yes
Short circuit shutdown	Yes
AC receptacle	Two 3-Prong
Warranty	1 year
Inverter weight	8.8 lbs
Dimensions (W x H x D)	16.7 x 3.3 x 9.3 in.
Weight	11 lbs.

EU2000iC



Generator Type	Inverter	
Maximum AC Output (Watts)		2000
AC Voltage Available		120
Max. Continuous AC Output (Watts)		1600
Max. Rated AC Amperage @ 120 Volts		13.3
Max. Rated AC Amperage @ 240 Volts	N/A	
Frequency (Hertz)		60
Automatic Voltage Regulator	std.	
DC Output (Volts)		12
DC Amperage		8
Engine Type	Honda GX100, OHV, Four Stroke Air-cooled	
Horsepower		3.5
Displacement	100 cc	
Starting System	Manual Recoil	
Low Oil Level Alert System	std.	
Auto-Throttle	Eco-throttle std.	
Remote start capability	no	
Fuel Tank Capacity (litres)		4.1
Transport Wheels	N/A	
Approximate running Time / Tankful (hrs.)	4.0 @ rated load/ 8 @ 25% load	
Rated Fuel Consumption (litres / hour)	0.97 @ rated load	
Noise Level (dBa)	59 @ rated load/ 54 @ 25% load	
Overall Dimensions: Length	510 mm (20.1 in.)	
Width	290 mm (11.4 in.)	
Height	424 mm (16.7in.)	
Dry Weight	21.0 kg. (46.3 lb.)	
Common Duplex		2
A.C. Receptacle Specifications	13.3 amps total	

Specifications are subject to change without prior notice.

EZ1800C



Generator Type	Brush Type	
Maximum AC Output (Watts)		1500
AC Voltage Available		120
Maximum Continuous AC Output (Watts)		1500
Maximum Rated AC Amperage @ 120 Volts		12.5
Maximum Rated AC Amperage @ 240 Volts	-	
Frequency (Hertz)		60
Automatic Voltage Regulator	Standard	
DC Output (Volts)	-	
DC Amperage	-	
Engine Type	Honda GX160K1 Overhead Valve Four Stroke Air-cooled	
Horsepower		5.5
Displacement	163 cc	
Starting System	Manual Recoil	
Low Oil Level Alert System	Standard	
Auto-Throttle	-	
Remote start capability	no	
Fuel Tank Capacity (litres)		3.7
Transport Wheels	-	
Approximate running Time / Tankfull (hrs.)	3.4 @ rated load	
Rated Fuel Consumption (litres / hour)	1.09 @ rated load	
Noise Level (dBa)	69 @ rated load	
Overall Dimensions: Length	511 mm (20.1 in.)	
Width	426 mm (16.8 in.)	
Height	406 mm (15.9 in.)	
Dry Weight	31 kg. (68.2 lb.)	
Common Duplex Receptacle Specifications	12.5 amps / 120 volts continuous is available as combined total from the two common AC receptacles. 12.5 amps is maximum available from a single receptacle.	