



Providing solar powered products that don't harm the environment and allow you to start unplugging from the power grid while maintaining your lifestyle.

CONVERTING WATTS & AMPS TO 12V RUN TIMES

Appliance power requirements will be listed in either watts or amps which are typically found on the rear or bottom of the device. You can easily determine the power draw of these devices on the GRID ERASER generator by using the equations noted below. Note that Grid Eraser Solar Powered Generators are 12-Volt systems.

AMPS = WATTS / 12 (12 Volt DC system)

WATTS = AMPS x 110 (110 Volts AC is household current & used by appliance manufacturers to compute amps used by their devices)

When device power is listed in WATTS (example used is 120 watts & 153 Amp/hr battery):

120 watts / 12 volts (DC) = 10 amps per hour

153 Ahr / 10 amps = 15 hours run time *

* Built-in safeguards of the Grid Eraser system will shut down the system when the battery reaches approximately 20-24% of its rating resulting in 11 - 12 hours of run time before re-charging the battery is required.

When device power is listed in AMPS (example used is 2 amps & 153 Amp/hr battery)

2 amps x 110 volts (AC) = 220 watts

220 watts / 12 volts (DC) = 18 amps per hour

153 Ahr / 18 amps = 8.5 hours run time x 76%-80% = 6 – 6.8 hours before battery re-charge is required.

These measurements are an approximate “rule of thumb” as all electric/electronic devices will vary somewhat from their power ratings and can be affected by operating temperature, ambient temperature, cord length, level of battery charge, etc.

Keeping the solar panel connected to the charge controller during daylight hours while powering appliances and electronic devices will significantly reduce battery drain resulting in longer run times.

The inverter can power up to 1000 watts but as the calculations show, the battery would be drained in less than 2 hours with that constant load. The 1000 watt inverter is provided with the generator to allow for running high-wattage appliances and tools for short periods of time; such as using a circular saw intermittently, or a microwave. Although a refrigerator may have a high watt rating but the compressor (which requires the high watts) only runs approximately 30% of the time.

Typical Watts for Various Appliances

<u>APPLIANCE</u>	<u>WATTS</u>	<u>APPLIANCE</u>	<u>WATTS</u>
Air conditioner (small window type)	600-1000	Light bulb - 60W CFL	18
Battery charger	220	Light bulb - 60W LED	3
Blanket	150	Microwave oven	750-1500
Blender	400	Oven	12000
Can opener	220	Power tools - bench grinder	375
Clock	2	Power tools - chain saw	1200
Coffee maker (making coffee)	1000	Power tools - circular saw	1300
Coffee maker (keeping warm)	100	Power tools - drill, jig saw	360
Computer - desktop with monitor	400-500	Power tools - portable tool charger	5-8
Computer - laptop	60-100	Power tools - belt sander	500
Convection oven (countertop)	1500	Power tools - soldering iron	25
Crock pot cooker (low to high)	70-150	Radio	15-25
Deep fryer	1400	Refrigerator/freezer (running)	500-700
Dishwasher	1200-1600	Refrigerator/freezer (not running)	5
Dishwasher (using hot water)	3600	Refrigerator - 12 cubic foot	225
Dryer - clothes	3600	Sewing machine	120
Dryer - hair	1200-1500	Skillet - electric	1250
Evaporative cooler	400	Smoke detector	2
Fan - ceiling	25-150	Stereo component system	250-500
Fan - exhaust	200	Stovetop burners	800
Fan - portable (12" - 20")	60-180	Sump pump	850
Freezer	500	Swimming pool filter pump	1800
Furnace - electric	10000-26000	Telephone - cordless	6-10
Furnace - gas (blower only)	750	Television - CRT	150
Garage door opener with light	300-500	Television - Plasma	300
Heat lamp	250	Television - LCD	300
Heater (portable space heater)	1000-1500	TV HD cable box	45
Heating pad	60-100	Toaster/broiler oven	1500
Hot tub heater	6000-8000	Vacuum cleaner	750
Hot tub pump	1800	Video game boxes	20-200
Humidifier	90	Waffle iron	1400
Iron	1100	Washer - clothes	850-1000
Lawn trimmer/mower	450-750	Water heater	4000-5000
Light bulb - fluorescent	40	Well pump	1000-2000
Light bulb - incandescent	40-150	Golf Cart (36Volt battery pack)	50