

Godman GRID™

Manufacturer's Supplement

CAUTIONS

To avoid inverter shutdown and possible damage, ensure that total continuous power consumption of all tools and/or appliances simultaneously powered by inverter does not exceed continuous watts rating. Larger resistive loads, such as electric stoves or heaters, could draw more wattage than the inverter can deliver on a continuous basis. Also ensure start-up wattage for loads does not exceed peak watts for more than a second.

Appliances such as microwave ovens will normally draw more than their rated current and could possibly overload the inverter when operating simultaneously with other appliances. For example, a 600 W microwave oven draws approximately 940 W. The overload protection will automatically shut the unit down if the inverter's output capacity is exceeded continuously. If overload shutdown occurs, turn OFF inverter, remove excessive load, then turn inverter back ON.

Power Source Requirements

The inverter is well suited for heavy loads such as well pumps, small compressors, small wire feed welders and other loads requiring a high inrush starting current, high amp starting load. Induction motors, as well as some other loads, may require two to six times their rated wattage to start up. A Godman GRID's inverter has a peak watt power rating that may allow such appliances and tools to be operated safely.

The equipment needing the highest starting wattage is pumps and compressors that start under load. This equipment can be safely tested and if an overload is detected, the inverter will simply shut down until the overload situation is corrected and the inverter reset.

Appliance Power Consumption: Most electrical tools, appliances and equipment have labels that show the device’s power consumption in amps, watts, or both. If only amps are given, Watts may be calculated by multiplying amps times volts AC (either ~115 or ~220).

Typical Wattages (~W/hr at maximum continuous setting/speed/volume):

Electrical Items	Wattage
LED Light (100W equivalent)	5
Laptop Computer	25
Stereo System	35
Freezer, Small Refrigerator	55
Desktop, PC Systems (monitor, modem, printer)	75
Refrigerator/Freezer (average)	75
Ceiling Fan (large, high)	75
CRT TV	150
Flat Screen TV (large)	230
Clothes Washer	280
Drill, Jigsaw, Sander	360
Well Pump, Furnace (gas w/blower)	750
Vacuum Cleaner	820
Coffee Maker -- brewing	1,000
Compact Microwave Oven	1,000
10” Bench Saw	1,500
Clothes Dryer	3,000
A/C (central w/compressor on)	3,500

Specifications

Inverter

Inverter	SUN110	SUN220	SUN240
AC Output Voltage	110V at 60Hz	220V at 50Hz	240V at 60Hz
Max Continuous Power	3000 Watts (rated 3000 Watts)		
Surge Capacity (Peak)	6000 Watts		
Waveform	Full Sine (Pure Sine)		
Rated Input Voltage	10 - 16 VDC		
Efficiency	90%		
No Load Current Draw, switch ON	<1 ADC	<2 ADC	<2 ADC
AC Outlets	2 Std N. Am.	2 Universal	2 Universal

Solar Panels

Each Renogy Solar Panel	Max Power 175 (+/-5%) W; accessible junction box	Anodized aluminum frame, 5-yr. manufacturer material and workmanship warranty, 25-year power output warranty.
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Solar Charge Controller

Charge control is based on 3-stage charging algorithm modes: bulk charge (highest rate), constant-voltage (pulse), and float (maintainer).

Solar Charge Controller	(LEDs only when panel connected)
POWER LED – red	ON – panel properly connected, normal power supply. OFF – no power available or of insufficient voltage.
CHARGING LED – blue lightning bolt	ON – battery charging; bulk charge of virtually all solar power to battery. Flashing – panel voltage too low for charging (insufficient daylight).
CHARGE COMPLETE LED – green, full battery symbol	ON – fully charged; small float charge continues to maintain battery.
Battery GOOD LED – green, ¾-full battery symbol	Battery voltage over 12.5V+/-0.4 and charging
Battery FAIR LED – yellow, ½-full battery symbol	Battery voltage 11.5-12.5V+/-0.4, needs charging
Battery LOW LED – red, ¼-full battery symbol	Battery voltage 11.5V+/-0.4, needs charging
Battery LOW LED – blinking red	Blown 30-amp fuse (battery disconnected, see page 8)
Operation temperature	41-122 °F
Operation humidity range	0-80% RH
Over temp protection (cutoff)	>176 °F
Over temp protection (restart)	<149 °F

Battery

Battery	SUN110, SUN220, SUN240
Sealed lead acid absorbed glass mat (AGM) deep cycle	8A8D 12V DC 245-amp hours (2940Wh)
Realistic Useable Storage	2000 Whrs
Manufacturer Expected Life Time (battery recyclable)	5-7 years, 150-3100 cycles dependent on usage. Call for information on replacing.

Solar Unit and Panels Weight and Dimensions

Godman GRID™ Unit

Size and Weight	Godman GRID™ Unit
Size: Length x Width x Height (inches)	28 x 15 x 30
Size: Length x Width x Height (centimeters)	71 x 38 x 76
Weight (lbs.)	260
Weight (kgs)	118

Solar Panels

Size and Weight	Each Solar Panel
Size: Length x Width x Depth (inches)	52.2 x 26.3 x 1.38 in
Size: Length x Width x Height (millimeters)	1326 x 668 x 35 mm
Weight (lbs.)	19.8 lbs.
Weight (kgs)	9 kg