Basics of Selecting an Inverter

Fill out the work sheet on this page to determine the inverter/battery power package that fits your individual needs.

Example

Sizing an inverter

Sizing your system is elementary math. Power is measured in watts. A light bulb, for instance, may require 40 watts of power, a blender 400. Appliance wattage is usually listed on the manufacturer's label. If only amperage is listed, the formula to determine watts is as follows: amps x volts = watts.

The amount of power you will take out of the battery will depend upon the relationship between the size of your load and the time it is operating. Your battery bank should be big enough to supply power to your anticipated "electrical wish list" (see right) for at least a few days

Choosing the right size inverter is based on a few major considerations. First and foremost is the largest single load which will be operated by the inverter. Another factor

STEP 1: Determine your daily energy budget: (Hous of use times wats equals doily watt hous used.) AC Appliance Haus of Daily Lisage X ApplanceWats == Daily Watt Hous Lised Microwave .8 400 300 40 240 Lights (x4) ó .75 750 563 Hat Dryer Teevsion 4 100 400 Washing Machine 375 375 1 Isla Daiv Wen Ha, Ged Add Inst 1-6 1.878 c date of outeroons VERC Specify: Autonomy System vollage Rough Battery Et imple STEP 2: Muspy total daily wait hous used by number of antic josted days of autonomy plays between the ging, usually between 1 to 5 to determine your Rough battley Estimate. 5,634 ж 5 STEP 3: Multiply Rough Battley Estimate x 2, to determine safe traffery see in wait focus. Fits a town for 50% maximum battley disc trage in norma tope at to name a nadalitional 50% in emergency a fuzitional; Sale Bately Ste in Watt He 11.268 system voltage STEP 4: Convertisate battery size to armp to us. The to multi all Safe Battery Size in watting \sim CC system voltage. (e., 12, 24, or 48, vots CC +Safe Battery Size in Armp Hous.) Sone bothe sittige in Armo Ha 470 To properly determine the tension add together the applances that musicell unal the same time, fram column 3 (Applance Wats, and advestight and 20% then to und upto the real investige size 2,500 Worksheet STEP 1: Determine your daily energy budget: (Hous of use times watts equals daily watt hours used.)

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to consider is the largest group of loads which may run at onetime. For example, a system which has a 1 kW electric motor on a washing machine and 1kW automatic water pump in the well has the potential to have a 2 kW load operating. The inverter must be large enough to handle either maximum load condition.

Finally there is inrush current which is the peak power that the load will draw at the instant that it starts up. TVs, stereos, and drills have a surge rating 1 1/2 to 2 times their continuous ratings. Power-hungry loads with large motors, such as

compressors, water pumps, refrigerators and air conditioners, may surge at start-up 3 to 4 times their run wattage. Most people have seen the effects of inrush current when a refrigerator starting up momentarily dims the lights.

We recommend that you add at least 25% to whatever you come up with to allow room for system growth.