

Choosing a Generator or Inverter to Power an Air Conditioner



Your A/C unit is an appliance that requires a high torque on the compressor to get started. This means that the power needed (for a short time) is actually higher than the A/C watt rating. Any household circuit (breaker) is designed to handle these short peaks in power but when choosing a generator or an inverter to power your A/C you have to make sure that they are able to handle these peaks.

The recommendation is to choose a Generator or an Inverter that has a “Peak Power Rating” of at least 3 times that of the wattage of the A/C when it is normally running.

This rule applies for all A/C Units whether they are 120V or 208/230V.

Example:

An LG 12K BTU Window A/C unit would need a Generator or an Inverter that is rated: 3,000 Watts Peak Power and that is rated at least 1,000 Watts Running Power.

Why? If you search for the electrical specifications from LG on their LW1216ER model (a 12K BTU) it says that this A/C consumes 990 Watts at 115V. For purposes of making calculations easy we'll take 1,000 watts as the wattage. This means that the Generator (or Inverter) will not only have to be able to maintain a constant load of 1,000 Watts but will also need to handle peaks of 3 times that - meaning 3,000 Watts.

NOTE ON INVERTER USE - VEHICLE ALTERNATOR

If you are planning to use an Inverter to power your A/C you also have to check the size and health of your Battery and Alternator in your car (truck). We recommend [Tripp-lite](#) inverters because they are well built and they are reliable.

A typical car alternator (100 amps or higher) and a 12VDC battery that are in good condition can handle the load of an A/C up to 12K BTU unit when using the appropriate inverter. For A/Cs rated higher than 12K (e.g. 15K, 18K and 24K) we recommend having your mechanic check the size of your alternator and the battery arrangement in your car (or truck).

Below is a great website link where you can use their calculator to check on the size of alternator required for your system. Just input the voltage that the Air conditioner requires (*AC Voltage*), the Amperage of the Air conditioner (*AC Amperage*) and choose the battery configuration of your vehicle. The calculator will tell you the DC Amperage needed which is the size of your alternator to be able to handle the load with the help of an inverter. Size your inverter following the rules we mentioned above!

<https://www.batterystuff.com/kb/tools/ac-to-dc-amperage-conversion-run-through-an-inverter.html>

NOTE: AC Voltage and AC Amperage in that web page does not mean "Air Conditioner", it stands for "Alternating Current".