

Tips on How to Choose POWER INVERTER

Q: What is an inverter?

A device which changes direct current (DC) into alternating current (AC).

Q: What size of inverter should I use?

The size you choose will depend on the watts of the appliance or tool you want to run (find the power consumption by referring to the specification plate on the appliance or tool). We recommend you to buy a larger model than you think you'll need (at least 10% to 20% more than your largest load).

Example: You want to power a computer with 17" monitor and a lamp.

Computer and monitor: 300 Watts
75 Watt lights: 75 Watts
Total Needed: 375 Watts

For this application, you would need a 400 Watt inverter. You should consider a larger unit than your minimum requirements, as there will likely be a time when you wish you would have bought a higher capacity model.

If the wattage of the appliance or tool is not listed explicitly on the specification, you may use the following formula.

Multiply: AMPS x 120 (AC voltage) = Watts.

Example: On the microwave shows 10 AMPS for continuous use.
The Wattage is 10 AMPS x 120 V = 1200 Watt

Q: Why can the 1500 Watt inverter not run my 1200 Watt microwave?

The power commonly advertised for microwave ovens are the cooking power (the power delivered to the food) not the power actually consumed by microwave oven. The microwave ovens might consume 40% to 100% more than its advertised cooking power. The recommended inverter to run 1200 Watt microwave is 2500 Watt or larger.

Q: What is meant by the terms "continuous wattage" and "peak surge wattage" on the inverters?

The "continuous wattage" is the wattage that the inverter can supply 24/7 as long as the DC input power supply is in good condition (usually, the DC power supply is a car battery)

The "Peak surge wattage" is the maximum wattage that the inverter can supply for very short period of time (a split of a second)

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Note: Induction motors such as air conditioners, refrigerators, freezers, microwave ovens, and pumps may have a start up surge of 3 to 7 times the continuous rating. Heat generating appliances such as hair dryers and water heaters will have high peak surges as well.

Example:

If the microwave oven has peak surge which is 4 times the continuous wattage, the 1200 Watt continuous microwave ovens will have $4 \times 1200 \text{ Watts} = 4800 \text{ Watts}$ peak surge.

The recommended inverter to run 1200 Watt continuous and 4800 Watt peak surge microwave is 2500/5000 Watt inverter or larger.

In general, induction motors require an initial surge of power to start up (“starting load” or “peak load”). Once started, the tool or appliance requires less power to continue to operate (“continuous load”)