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Inverter Ratings

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COMMENTS ON INVERTER RATINGS

Some consumers believe comparing the advertised inverter power rating, in watts, of different manufacturer's products is a valid method of comparison. **This is only valid if comparing UL listed continuous power ratings.** The UL listed continuous rating method is the only recognized, fully documented, independently certified rating available. It includes such parameters as ambient temperature, allowable temperature rise of chassis and components, type of load and adjustment procedure, component evaluation, and the definition of stabilized temperature.

Some manufacturers will use such phrases as rated power, duty cycle, 15 or 30 minute rating, constant power, output power, or even continuous rating. Each of these ratings is obtained from a procedure that the inverter's manufacturer has defined and is seldom published. These non-certified ratings, therefore, are not real useful for product comparison.

The use of a "Listed" inverter ensures compliance with the standards in the National Electric Code. The listing ensures that the product has been tested to the appropriate standard, is safe for use, and that it is consistently built to those standards by having periodic surprise inspections conducted by UL at the manufacturers facilities.

To assist in inverter selection, some manufacturers present a short term rating, such as 15 or 30 minutes. This is based on the assumption that loads attached to the inverter will only operate for this short amount of time. These ratings usually have the inverter operating in an overload condition until the over temperature protection circuit turns the inverter off. Again, these ratings do not represent an accurate basis of comparison because they are defined by the manufacturer, are not well documented, and may, in fact, constitute an unsafe use of the inverter.

The most revealing rating of an inverter is the operational motor horsepower rating, using the NEMA rating method. This is needed for inverter selection when used to operate well pumps, washing machines, refrigerators, air compressors, or other motorized equipment.

The discussion above is an attempt to clarify the inverter ratings used by different manufacturers. Dimensions inverters are rated both in horsepower and UL continuous ratings to allow you to choose the proper inverter for your application.