

# **How long can a battery plus inverter last**





## Overview

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How long will a 12V battery last with an inverter?

As a simple rule, to calculate how long a 12v deep-cycle battery will last with an inverter multiply battery amp-hours (Ah) by 12 to find watt-hours, and divide by the load watts to find run time hours. Finally, multiply run time hours by 95% to account for inverter losses. Introduction to Solar Power Battery Inverters – What Do Inverters Do?

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How long will a battery last after hooking up with an inverter?

Now, to determine the amount of time that your battery will last after hooking it up with an inverter, you need to be aware of the amp hours on your battery's specification. A good example is if you have a 90a/h rating on your battery, it will serve you for the next two hours if your load takes away 400 watts of power via the inverter.

How long does a 12V battery last?

With a 5000W inverter (95% efficiency), a 12V battery will run for 0.1824 hours. Battery running time for a 12V battery with a 5000W inverter (95% efficiency) is 0.1824 hours. Battery Running Time =  $100\text{Ah} \times 12\text{v} \times 80\% \times 92\% / 2000\text{W} = 0.4416$  hours When powered by a 2000W inverter (92% efficiency), a 12V battery will last 0.4416 hours.

How long does a 12V battery run on a 3000W inverter?

So, battery running time for a 12V battery with a 3000W inverter (94% efficiency) is 0.3008 hours. Battery Running Time =  $100\text{Ah} \times 12\text{v} \times 80\% \times 95\% / 5000\text{W} = 0.1824$  hours With a 5000W inverter (95% efficiency), a 12V battery will run for 0.1824 hours. Battery running time for a 12V battery with a 5000W inverter (95% efficiency) is 0.1824 hours.



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