



BUHLE POWER

# Can a 12V inverter work for a long time





## Overview

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On average, a well-made 12v inverter can last anywhere from 5 to 15 years. But this is a pretty wide range, and it really depends on the factors we just talked about. 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?](#)

### Can a 12V battery power an inverter?

Here's the magic: by connecting your 12v battery to an inverter, you unlock the potential to power various devices, bringing a touch of home comfort to your off-grid adventures. But there's a catch – the amount of time your battery can provide power depends on several factors. That's what we'll explore in the next part!

### What is the runtime of a 12V battery with an inverter?

The runtime of a 12v battery with an inverter depends on battery capacity, device power consumption, inverter efficiency, battery health, discharge depth, and environmental conditions.

### 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.  $\text{Battery Running Time} = 100\text{Ah} \times 12\text{v} \times 80\% \times 95\% / 5000\text{W} = 0.1824 \text{ hours}$  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.



## Can a 12V inverter work for a long time

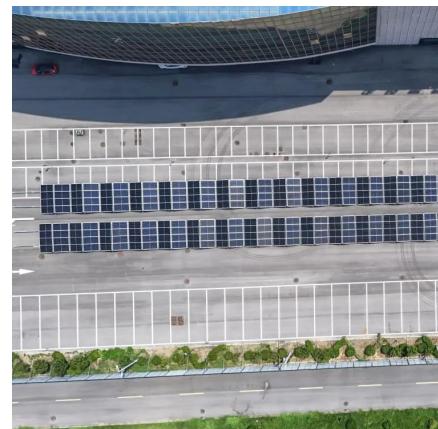


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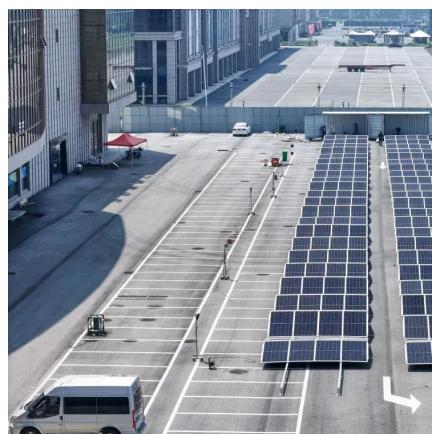


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