

PV inverter size requirements





Overview

What size solar inverter do I Need?

Inverter size is measured in kilowatts (kW). It should match your solar array within a 1.15 to 1.33 ratio. Getting it wrong can reduce efficiency or disqualify you from solar rebates. What size inverter do I need for solar panels?

To calculate, divide your solar panel system's total DC rating by the desired inverter's AC output.

How do I choose a solar inverter?

This is the most critical factor in solar inverter sizing. Check the total wattage of your solar array (DC) and use it to calculate the appropriate inverter output (AC). For optimal results, a 6.6kW array typically pairs with a 5kW inverter, falling within the accepted array-to-inverter ratio of 1.15 to 1.33.

Do solar inverters need a minimum voltage?

Solar inverters require a minimum input voltage to function effectively. If your solar panel array doesn't generate enough power—say, during cloudy weather or early morning—the inverter might not even turn on. This results in missed opportunities to capture available energy.

Should I undersize my solar inverter?

Undersizing allows your solar inverter to run closer to its maximum output for more hours during the day, which can improve efficiency. However, if your panels frequently produce more power than the inverter can handle (especially during peak sun hours), the system will clip that excess power—resulting in lost generation.



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