

## ContainerPower Energy Solutions

# Can solar panels of different wattages be connected in series



## Overview

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Solar panels of different watts should not be used together because they have different voltages and amps. Can you mix different wattage solar panels?

Then yes, you can mix solar panels that have different wattages. But it is not usually advised because mixing different wattage panels reduces the efficiency and power output. Wattage Mixing Reduces Efficiency and Power A variety of wattage panels has different voltage and amps outputs.

Should a solar panel be connected in series or parallel?

According to the preset formulas, similar voltages should be connected in series, while similar currents should be connected in parallel. This indicates that you should connect panels in parallel rather than series when you have panels with ratings of the same voltage but of different wattages.

Are solar panels connected in series?

When you connect solar panels in series, the total output current of the solar array is the same as the current passing through a single panel, while the total output voltage is a sum of the voltage drops on each solar panel. The latter is only valid provided that the panels connected are of the same type and power rating.

Can solar panels of different Watts be used together?

Solar panels of different watts should not be used together because they have different voltages and amps. The system will always choose the lowest voltage or amp, which will reduce efficiency and power output. First we need to explain how solar panels are connected and how it affects the voltage and amperage (current).

Can you connect solar panels with different Watts in parallel?

You can connect solar panels with different watts in parallel if they have similar voltages. You can connect solar panels with different voltages in series

if they have similar amps. If you connect mismatched solar panels without matching the amps or voltages, performance is going to suffer.

How many watts are connected to a solar panel?

Total connected power =  $140W + 150W + 150W + 150W = 590W$  Unlike Solar Panels connected in series, the different Wattage parameters do not effect the overall outcome of the array. However if the voltages of the Solar Panels are drastically different then this can cause some discrepancies.

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