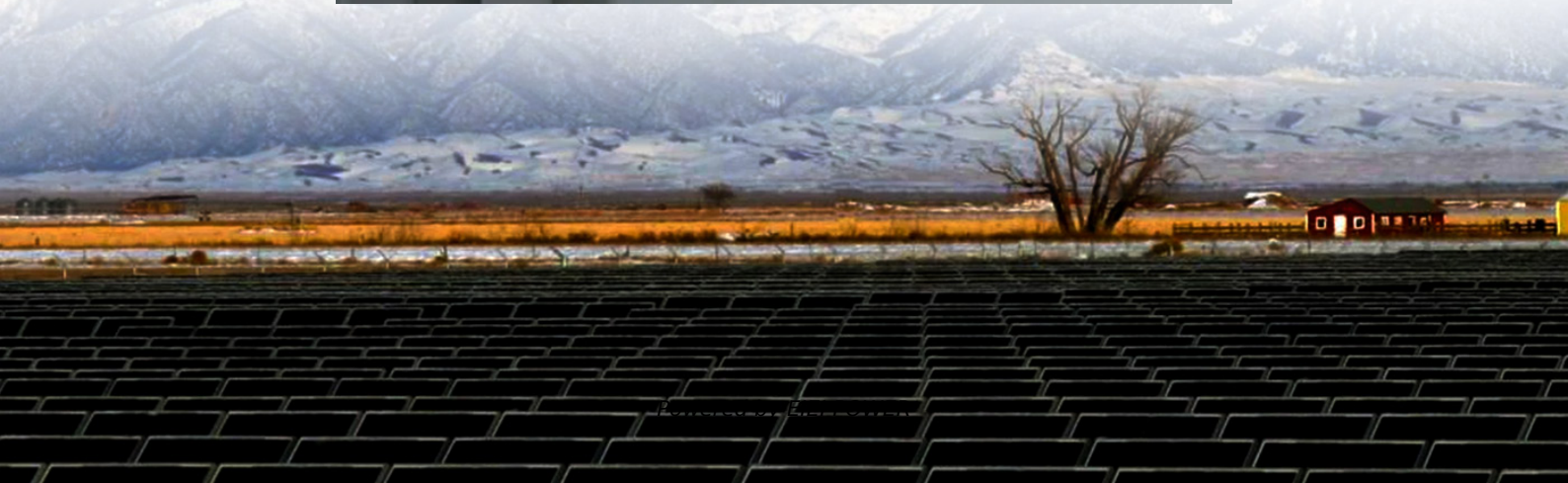
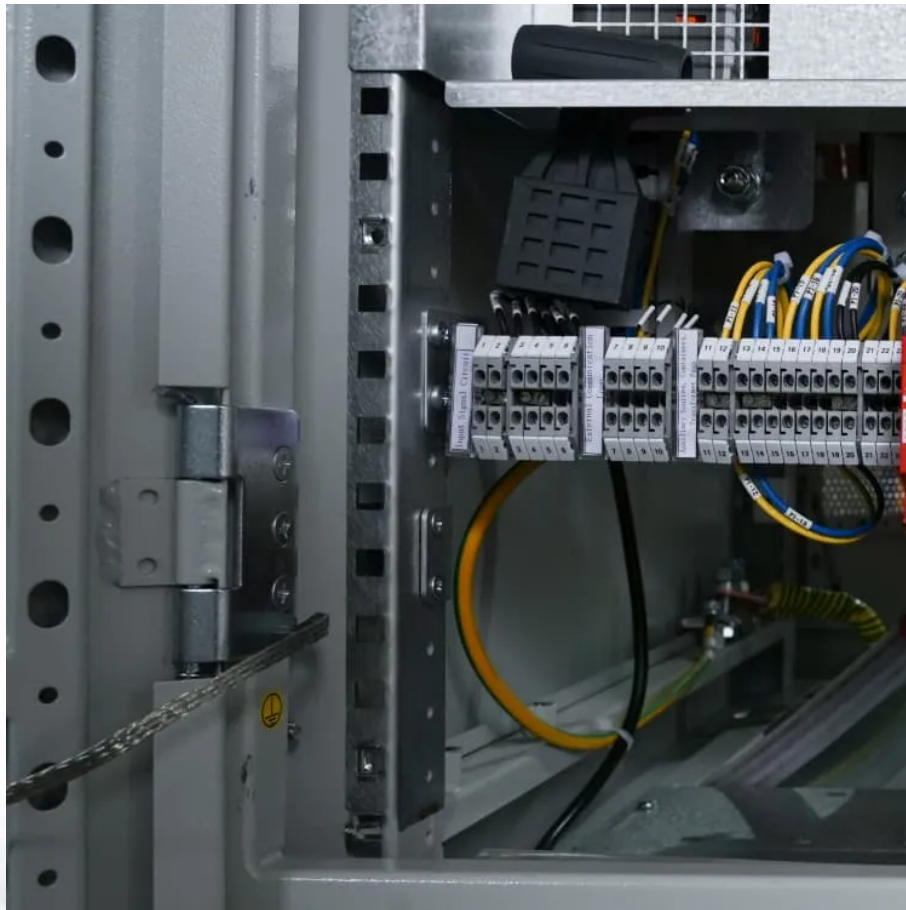


How many amperes of battery are needed to store 2 kWh of electricity





Overview

How much energy is stored in a battery?

If we want to calculate how much energy – in other words, how many watt-hours – is stored in a battery, we need information about the electric charge in the battery. This value is commonly expressed in amp-hours – amps (units of electric current) multiplied by hours (units of time) – see the hours calculator.

How many kWh can a 12V battery provide?

So a 12V battery with a 100 Ah capacity can theoretically provide $12\text{ V} \times 100\text{ Ah} = 1200\text{ Wh}$ or 1.2 kWh. This last formula is used in our Battery Capacity Calculator. Battery capacity is essential in determining how long a battery can power a device or system.

How much energy does a 12V battery store?

In energy terms, battery capacity is also linked to voltage. To determine the energy stored, measured in watt-hours (Wh), the formula is: $\text{Energy (Wh)} = \text{Capacity (Ah)} \times \text{Voltage (V)}$ So a 12V battery with a 100 Ah capacity can theoretically provide $12\text{ V} \times 100\text{ Ah} = 1200\text{ Wh}$ or 1.2 kWh. This last formula is used in our Battery Capacity Calculator.

How much battery capacity do I Need?

This means you need a battery (or battery bank) of at least 83.3Ah capacity to meet that 1 kWh demand. However, you usually don't want to fully discharge the battery to avoid damaging it. For most deep-cycle batteries, staying at around 50% discharge is safer. Doubling 83.3Ah gives about 166.7Ah capacity to account for that 50% cushion.



How many amperes of battery are needed to store 2 kWh of electric



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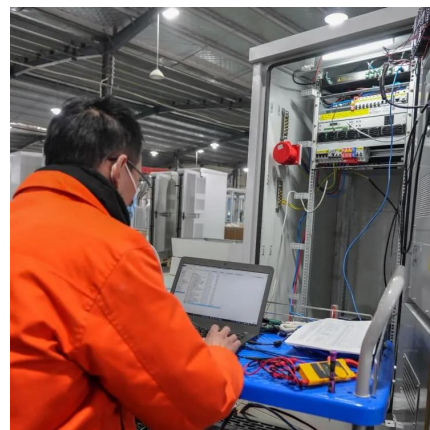


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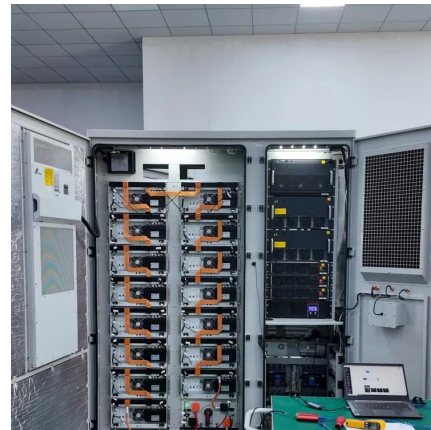


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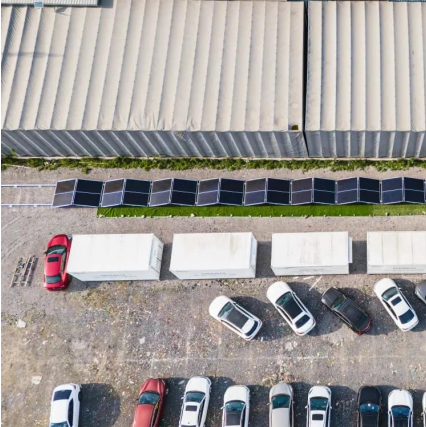
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