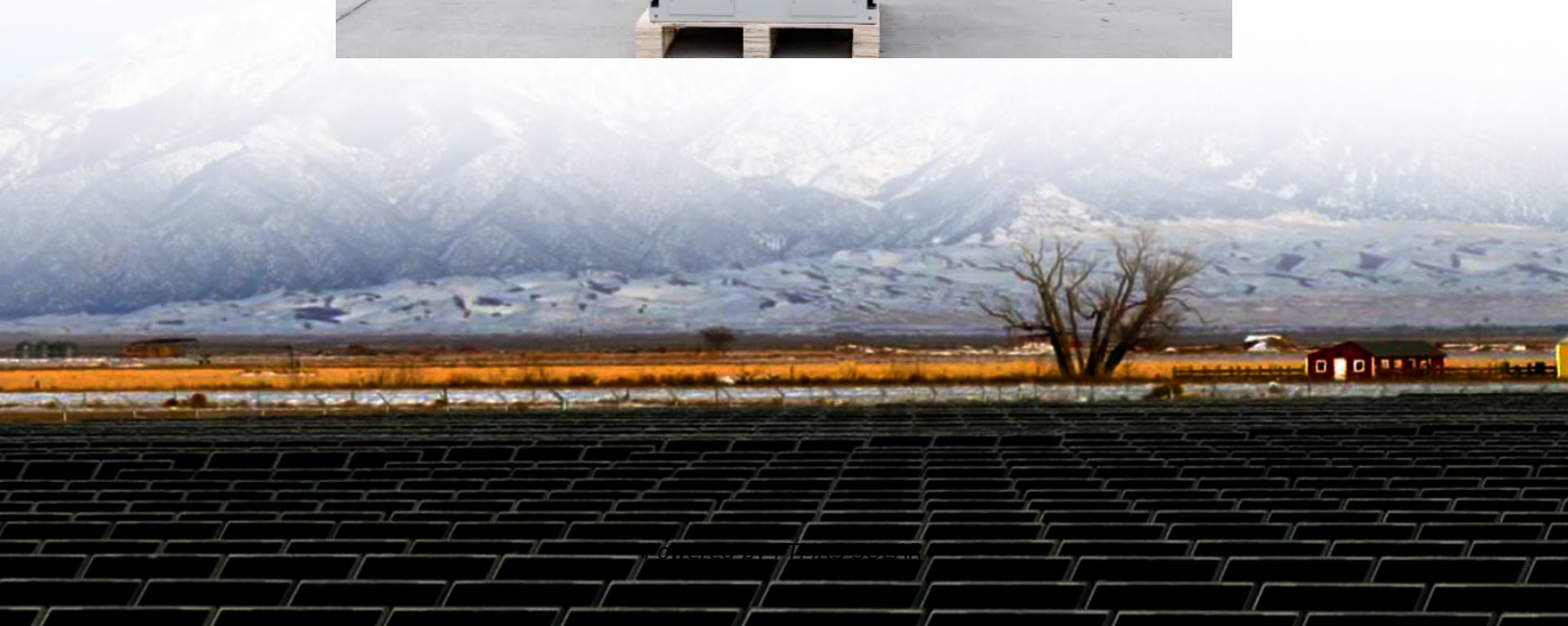


How big a resistor should I use for a 12v inverter 200w





Overview

Do you need a resistor for a 12V led?

A 12V power supply is common, but LEDs usually require a lower voltage to operate correctly. Using a resistor with a 12V LED is essential to prevent damage and ensure longevity. This article will demystify the process of choosing the appropriate LED resistor for 12V circuits.

Is 20R a good voltage for a 48V inverter?

20R at 48V is about 2.5A or therabouts, I'd suggest that will be just fine, give it a suitably rated switch and you're good to go. You're just trying to avoid that massive (almost infinite) current splat when you first connect the discharged inverter. The Seplos 48V BMS has a 51R 10W pre-charge resistor for about 1A pre-charge.

What wattage should a resistor be?

The resistor wattage should always be higher than the calculated power. Recalculate the power using the formula: $\text{Power} = (\text{Supply Voltage} - \text{LED Forward Voltage}) * \text{LED Current}$ and use a resistor with a wattage rating 2 or more times the calculated value, as a safety factor.

How do you calculate the power a resistor needs to handle?

The power (P) that a resistor needs to handle in a 12V LED circuit can be calculated using the formula: $P = (V_s - V_f) * I$, where: V_s is the supply voltage (12V), V_f is the forward voltage drop of the LED, and I is the forward current flowing through the LED. This calculation determines the power that the resistor will dissipate as heat.



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