SolarTech Power Solutions

The maximum discharge percentage of an outdoor power supply

Overview

What are the limitations of a power supply?

Limits to the harmonic currents that can be taken from the input line. Limits to the voltage fluctuations that the power supply can cause to the line input voltage. Immunity to electrostatic discharge. Immunity to radiated radio frequencies. Immunity to fast transient voltages on the input lines. Immunity to lightning surges on the input lines.

What are the emission limits for a power supply?

There are two levels for the emission limits, Class A and Class B. Class B is normally required which puts a lower limit on allowed emissions. Limits to the harmonic currents that can be taken from the input line. Limits to the voltage fluctuations that the power supply can cause to the line input voltage. Immunity to electrostatic discharge.

What is the EMC standard for power supplies?

The current relevant standard for power supplies is EN61204-3: 2000. This covers the EMC requirements for power supply units with DC output (s) of up to 200V, at power levels up to 30kW, and operating from AC or DC source voltages of up to 600V. The "EN" refers to Euro Norm or European standard.

How much clearance do I need for a modular power supply?

This will require clearance limit 1.48 times of IEC/UL 60950-1 unless your device marked as suitable for use only up to 2000 m New modular power supply has been designed to exceed regulatory safety requirements at 5000 M for creepage and clearance. The new product is fanless.

What happens if discharge current is too high?

If the discharge current is too high an element of the cell is likely to degrade or fail. Hence the need to understand the cell manufacturers maximum current specification. This post has been built based on the support and

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What is the maximum discharge rate of a 5AH NMC cell?

These numbers are quite typical of a 5Ah NMC cell. Peak discharge is around 10C. However, there are other factors that determine the maximum discharge rate. The cell will be designed to deliver a maximum current versus time. This will be dependent on: Comparing power versus energy cells we see there are some fundamental differences.

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