

# Soc of energy storage device





## Overview

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What is a fully discharged power supply (SoC)?

The amount of energy stored in a device as a percentage of its total energy capacity Fully discharged: SoC = 0% Fully charged: SoC = 100% Depth of discharge (DoD) The amount of energy that has been removed from a device as a percentage of the total energy capacity K. Webb ESE 471 6 Capacity.

What is the difference between watt-hours (Wh) and state of charge (SOC)?

Watt-hours (Wh) (Ampere-hours, Ah, for batteries) State of charge (SoC) The amount of energy stored in a device as a percentage of its total energy capacity Fully discharged: SoC = 0% Fully charged: SoC = 100% Depth of discharge (DoD) The amount of energy that has been removed from a device as a percentage of the total energy capacity.

What is a specific storage device?

Specific storage devices plotted as points on the plot, or Categories of devices plotted as regions in the Ragone plane K. Webb ESE 471 18 Ragone Plots K. Webb ESE 471 19 Discharge Time Any given storage system will have a specific energy capacity and a specific power rating.

What are the merits of energy storage systems?

Two primary figures of merit for energy storage systems: Specific energy Specific power Often a tradeoff between the two Different storage technologies best suited to different applications depending on power/energy requirements Storage technologies can be compared graphically on a Ragone plot Specific energy vs. specific power



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