

Frequent deep discharge of energy storage batteries





Overview

How does deep discharge affect battery life?

Depth of Discharge (DOD) A battery's lifetime is highly dependent on the DOD. The DOD indicates the percentage of the battery that has been discharged relative to the battery's overall capacity. Deep discharge reduces the battery's cycle life, as shown in Fig. 1. Also, overcharging can cause unstable conditions.

What are the characteristics of a battery experiencing a deep discharge?

The characteristics of the battery experiencing a deep discharge are as follows. The battery voltage is very low, below the battery specifications; sometimes, the voltage can touch 0 volts. The battery does not respond at all when trying to recharge. The battery's capacity to store energy decreases drastically.

What percentage of a battery is discharged?

The remaining 60% is the State of Charge (SoC). If you have a 100Ah battery and you consume 50Ah, the depth of discharge is 50%. Battery deep discharge, or regularly using the battery to a high percentage of its capacity (e.g., 80–100% DoD), can significantly reduce the battery's cycle life.

What is the depth of discharge of a battery?

Depth of Discharge (DoD) refers to the percentage of a battery's capacity that has been used. For example, if you use 40% of a battery's total capacity, the DoD is 40%. The remaining 60% is the State of Charge (SoC). If you have a 100Ah battery and you consume 50Ah, the depth of discharge is 50%.



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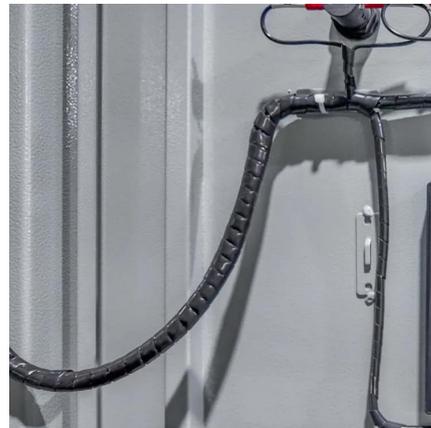


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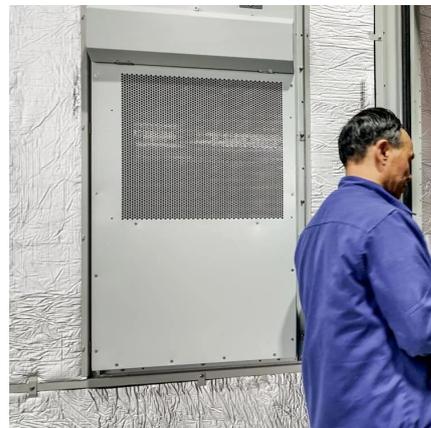


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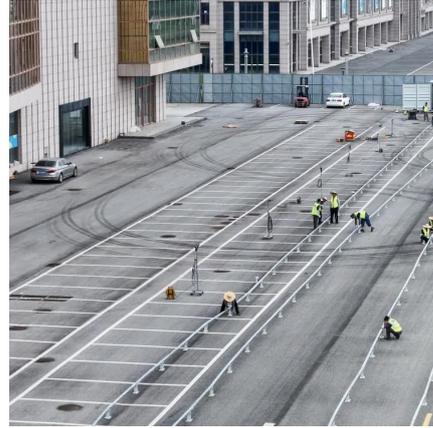
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