



**SolarTech Power Solutions**

# **Battery calculation for mobile base station equipment**



## Overview

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Formula: Capacity (Ah)=Power (W)×Backup Hours (h)/Battery Voltage (V)  
Example: If a base station consumes 500W and needs 4 hours of backup at 48V, the required capacity is:  $500W \times 4h / 48V = 41.67Ah$  Choosing a battery with a slightly higher capacity ensures reliability under real-world.

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Batteries provide DC power to the switchgear equipment during an outage. Best practice is to have individual batteries for each load/application. \*Lead-Acid has a minimum sizing duration of 1min. Why?

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The lower limit should allow for maximum usage during discharge. □ The narrower the voltage.

Power Consumption: Determine the base station's load (in watts). Backup Duration: Identify the required backup time (hours). Battery Voltage: Select the correct voltage based on system design. Efficiency & Discharge Rate: Consider battery efficiency and discharge characteristics. Formula: Capacity.

Whether you are a consumer looking to extend your smartphone's battery life or an engineer designing a battery system for a large-scale project, understanding how to calculate the right battery capacity is paramount. The first step in calculating the right battery capacity for your equipment is to.

### How to Accurately Size Batteries for Telecom Systems Using a Calculator?

Telecom battery sizing calculators determine the correct battery capacity needed to power telecom infrastructure during outages. These tools factor in

load requirements, autonomy time, temperature, and battery chemistry to.

Smallest cell capacity available for selected cell type that satisfies capacity requirement, line 6m, when discharged to per-cell EoD voltage, line 9d or 9e, at functional hour rate, line 7. OR, if no single cell satisfies requirements, capacity of cell to be paralleled. Smallest cell capacity.

By choosing the right backup system, you safeguard your base stations against power disruptions and ensure seamless connectivity. Check how much power you need. Add up the total energy use and decide how long you want the backup to last. Pick a UPS with the right size. Pick the best battery type.

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### Contact Us

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