



How long will it take to recharge my battery is a question we are asked on many occasions and the answer can often be very varied. Many factors have to be taken in to consideration, including the Ah rating of the battery, the depth of discharge, temperature and of course the output capacity of the charger. Last but not least if the battery being recharged is still providing parallel loads this also needs to be accounted for, for example if you are taking 10 amps out of the battery while recharging at 20 amps you are only charging the battery at a rate of 10 amps.

The type of charger used is also very important, any good quality charger should be capable of supplying a minimum of a three stage charge algorithm Bulk-Absorption-Float, and have an adequate charge output sized to the Ah rating of the battery to be charged. This ideally will be 20% of the Ah rating of the battery, so a 100Ah battery would require a 20A battery charger. When charging a battery any active parallel loads also need to be taken in to account. Effectively a 100Ah battery with a 10 amp load present would require a charge rate of 30 amps to achieve the 20% recharge rating.

A lead-acid battery is about 80% charged at the beginning of the absorption period, and the time to 80% charged can be calculated as follows: $\text{Time} = \text{Ah} / (1 - \text{load current})$ (1 being the charge current minus any load current and Ah being the amount of Ah to be charged). To achieve a 100% state of charge (SoC) an absorption period of about 8 hours is required.

This recharge period is also were Lithium batteries come in to their own as these will be 95% charged at the beginning of the absorption period, and reach 100% state of charge after only 30 minutes of the absorption period.

When a battery approaches the end of its useful cycle life or fails prematurely due to sulfation or corrosion, its capacity will be considerable reduced and internal resistance will be increased. A short or reduced bulk phase during recharging is an indication that the battery is at the end of its useful life cycle.

We hope the above helps you in the care and maintenance of your battery and assists you with making the correct choice of battery charger. If you would like to discuss any issues or have any concerns over your choice of battery type or charger please feel free to contact our help line.



We offer a wide variety of battery chargers with options in 12V, 24V and 48V and outputs ranging from 7A to 200A

<https://www.intellitecmv.com/collections/battery-charging-ac-dc>

