

A frequent call our tech support team receive is from customers or installers saying that although their charger is running, the auxiliary battery's voltage isn't rising.

Fear not - this is quite normal and doesn't mean that something is wrong!

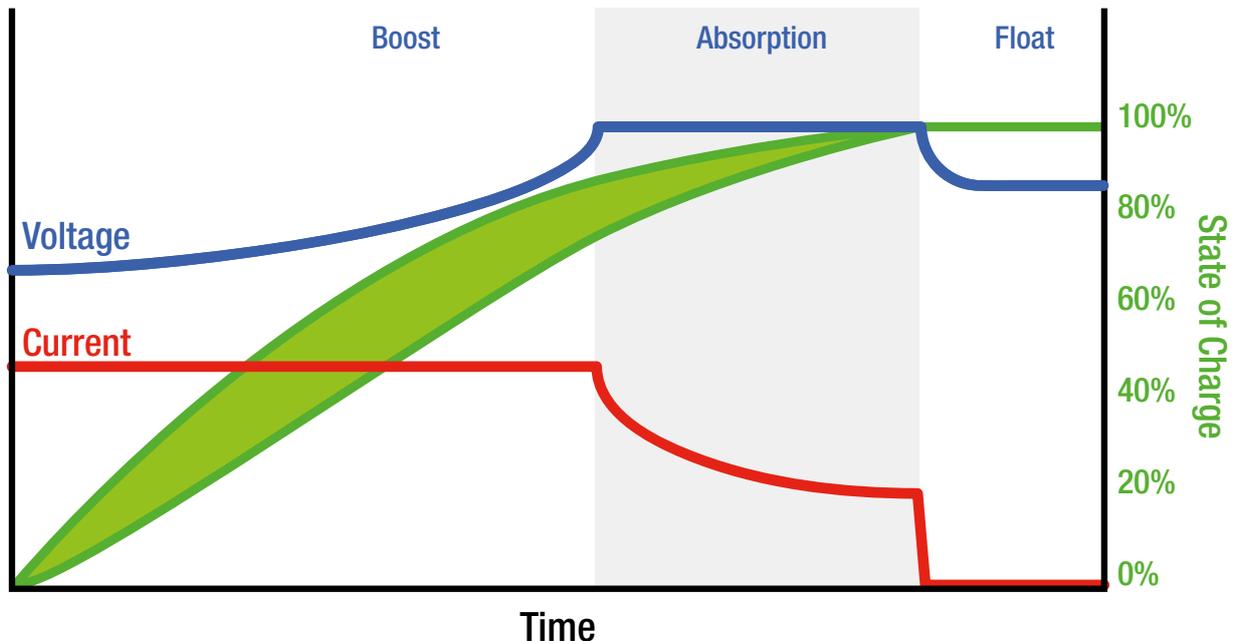
It all comes down to the way a multi-stage charging process works. When a battery is deeply discharged it will take a large amount of energy to be put back into it to make the voltage rise. This will take some time, so let it charge for 30 minutes or so and recheck the voltage - as they say, the watched pot never boils!

We've recently published a few [Tech Tips](#) about the specifics of the charging stages, in particular [this one](#) describes each stage in depth; <https://www.redarc.com.au/what-is-my-bcdcs-charge-status-led-telling-me>

As a more general guide, the graphs below show how the battery's state of charge (Green) will progress as the charger makes its way through the various stages of charge. Note that the horizontal (Time) axis in the charts isn't to scale.

The green 'State of Charge' line is shown with a bulge to display that not all batteries will charge in quite the same way. Factors including heat, age, chemistry, capacity, loads attached, cable size/length, mounting location (amongst others) will all affect the way that the battery charges. As a general rule, the battery will be around 70-80% charge when the charger moves from *Boost* to *Absorption* and at 100% when the charger moves to float.

Charging Process (A, B and C Profiles)



TECH TIP

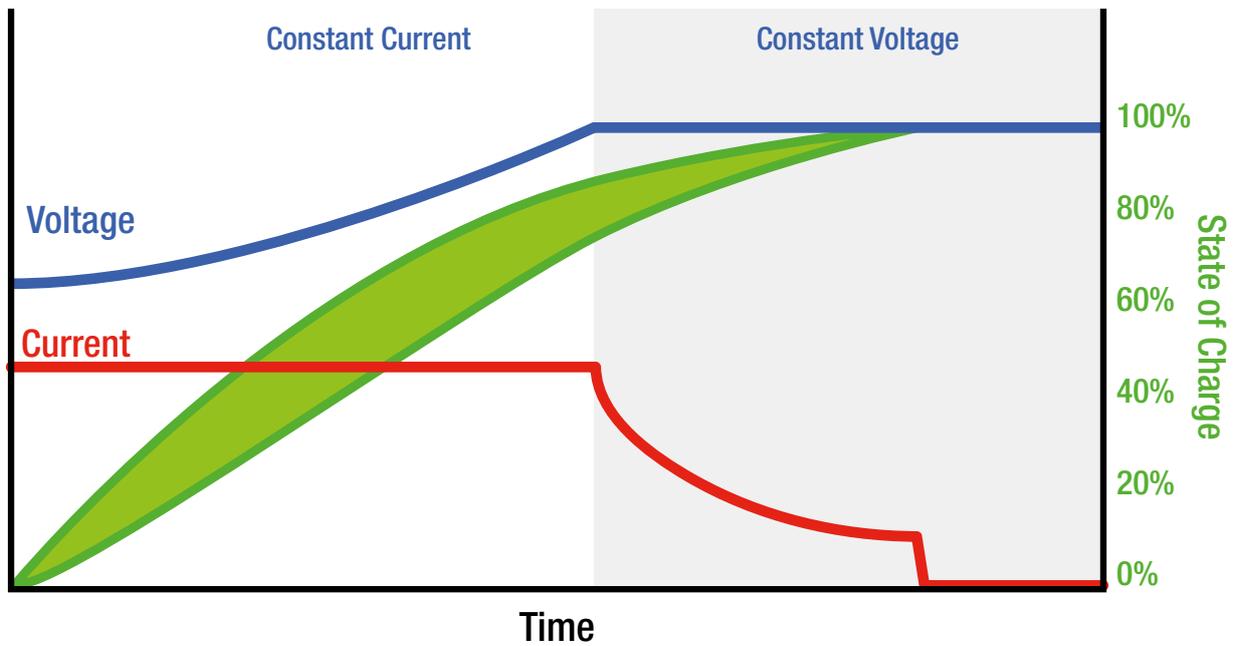
Copyright 2017 REDARC Electronics Pty Ltd. All Rights Reserved

THE POWER OF



The Lithium profile graph is very similar, although the charging profile is now only 2-stage. Here the battery will be at roughly 90-95% state of charge when the charger moves from *Constant Current* to *Constant Voltage* stage.

Charging Process Lithium



TECH TIP

Copyright 2017 REDARC Electronics Pty Ltd. All Rights Reserved