

LiPo Charging

⚠ Never leave LiPo Batteries unattended during charging due to fire hazard.

The following instructions should be followed to properly charge the CPM Lab Vehicle LiPo Batteries using a VOLTcraft V-CHARGE 50 charger. If unsure, please consult following people for help:

- Maximilian Kloock
- Patrick Scheffe

Instructions can also be found in git:

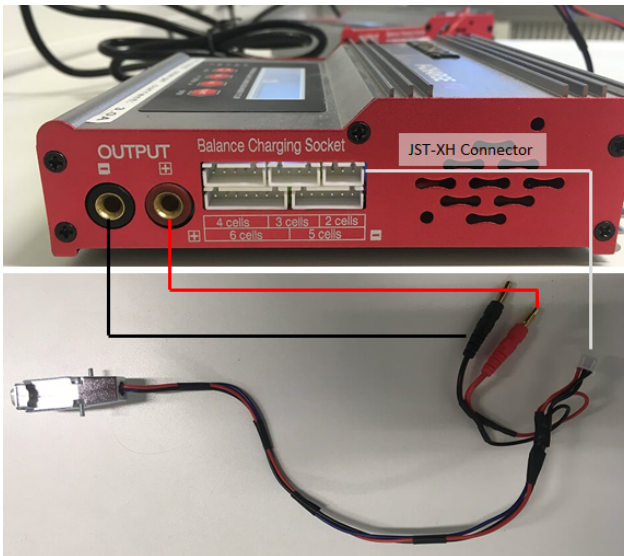
- https://git.rwth-aachen.de/CPM/Project/Lab/docs/blob/master/Vehicle/Version2/production_manuals/lipo_charging.pptx

General Info

1. Charge process can be terminated at any point. LiPo Batteries should never be left unattended while charging. Charge should be terminated before leaving CPM Lab.
2. LiPo Battery Health and Lifespan is kept highest if LiPo Batteries are regularly charged. Do not hesitate to charge vehicles before battery protection circuit is triggered. The battery protection circuit is triggered at 6.0-6.4V. If possible, charge batteries regularly to maintain a charge between 7.4-8.0V.

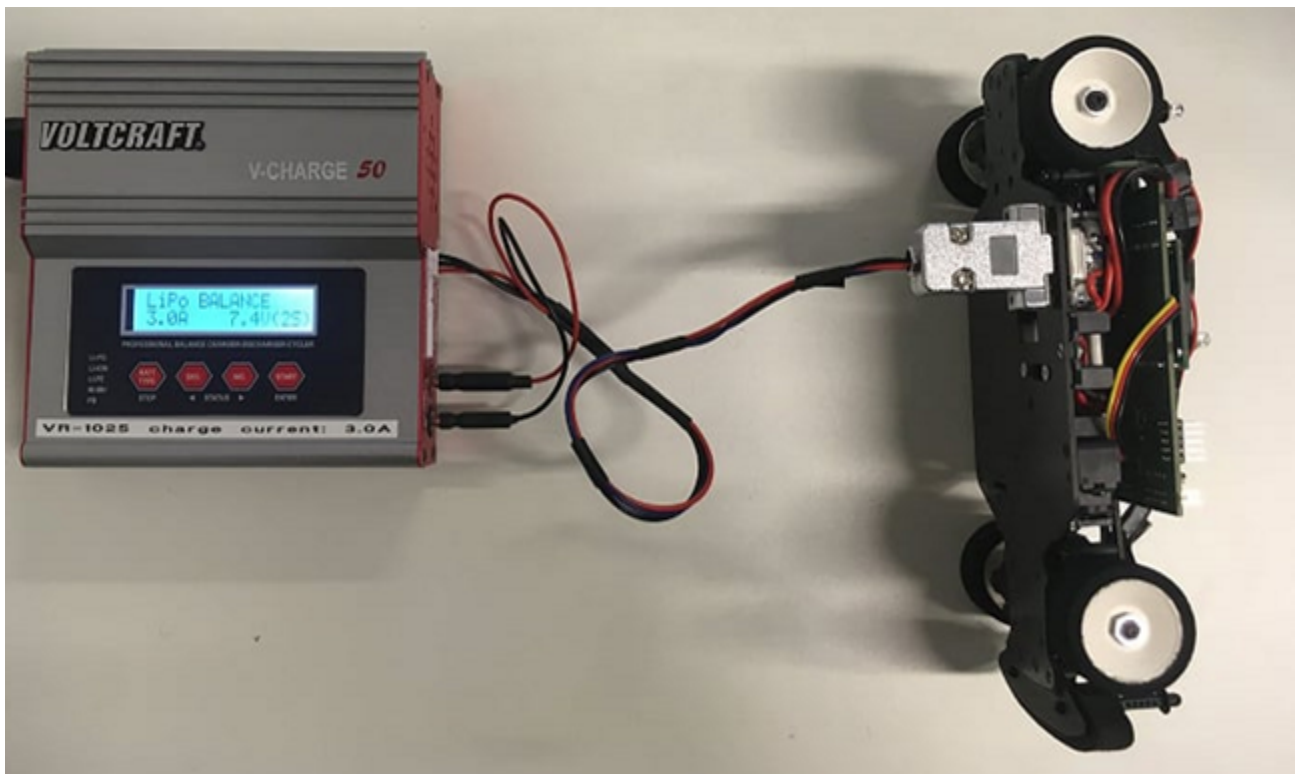
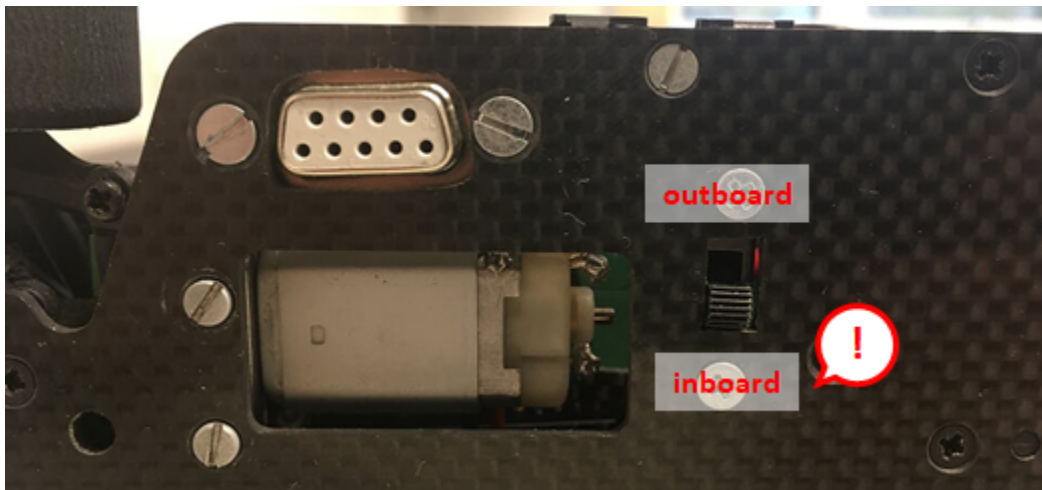
1. Charger Setup

Plug charger cable into correct ports.



2. Connect Vehicle

Turn off the vehicle (switch should be inboard toward center of vehicle) and connect DSUB connector.



Turning off the vehicle is important so that charge termination is successful. LiPo chargers work by charging in two modes, first constant current (CC) then constant voltage (CV). During CV, the current is monitored until it drops under a certain threshold at which point the charger terminates the charging process. If the vehicle is left on, this threshold current may not be reached and the charger will charge indefinitely.

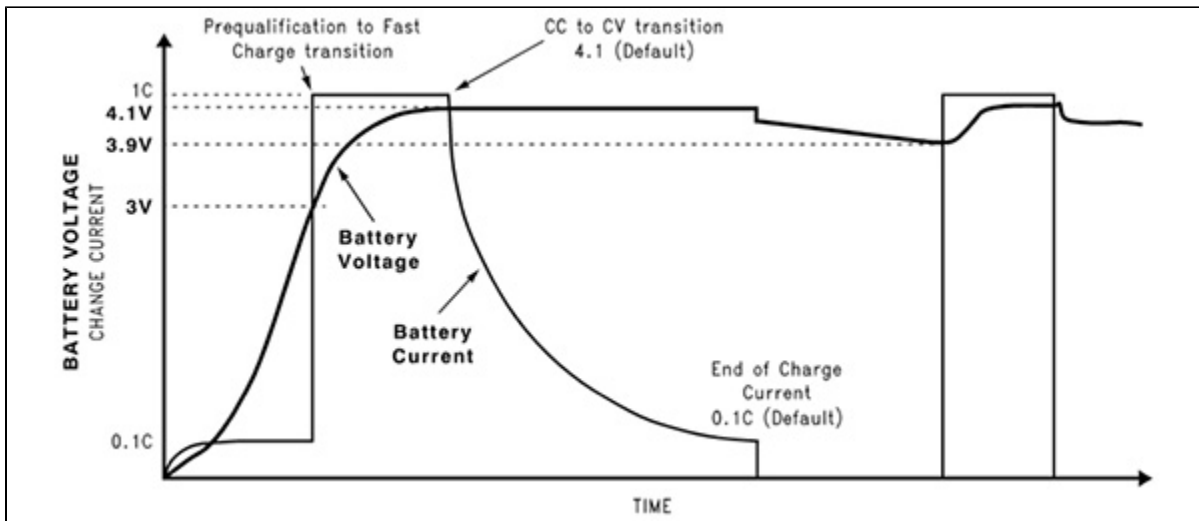


Image Courtesy: <https://www.digikey.com/en/articles/techzone/2016/sep/a-designer-guide-fast-lithium-ion-battery-charging>

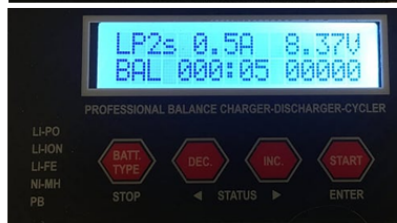
3. Charge Vehicle

i It is okay to stop LiPo charging at any time if need be e.g. to leave room. To stop charging, press STOP button.

Follow slide to properly begin charging vehicle. Following settings should be observed:

Setting	LiPo Balance
Charge Current	3A
Voltage	2.7V(2S)

WARNING: NEVER LEAVE LIPO UNATTENDED WHILE CHARGING DUE TO FIRE RISK



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