

LIPO BATTERY CHARGING/DISCHARGING

Charging Rate

The generally accepted level of charge of a Li-Po battery is 1C. Therefore, the maximum charge rate of a battery will be found by dividing the capacity of the battery by 1 hour. In other words, you simply note the capacity of the battery in mAH, remove the 'H' and you will have the maximum charge rate in mA.

A 700 mAH battery will be 700 mA (0.7 amps) maximum charge rate.

A 1500 mAH battery will be 1500 mA (1.5 amps) maximum charge rate.

A 2200 mAH battery will be 2200 mA (2.2 amps) maximum charge rate.

Note that this is only a guide and that many dedicated Li-Po chargers (which you MUST be using) will only allow you to select the number of cells to be charged (and hence the charging voltage). The charging current will then be regulated automatically.

However, if you can set the charge current then, for longer battery life, you can always charge at less than the maximum allowed but do not go higher. If the battery comes off the charger anything other than slightly warm, you are charging at too high a rate.

Discharge Rate

The safe maximum continuous discharge rate of the battery is the full 'C' rating multiplied by the capacity.

A 10C x 700 mAH battery will have a maximum safe discharge rate of 7 amps.

A 20C x 1500 mAH battery will have a maximum safe discharge rate of $20 \times 1500 \text{ mA} = 30 \text{ amps}$.

These are reasonable figures to use as a basis for your power decisions. If you find that your model is landing with the batteries more than reasonably warm, you are discharging at too high a rate and battery life will be shortened. Much too high a discharge rate and you risk the same thermal runaway situation as with overcharging.

It is highly recommended that you invest in a good multimeter or powermeter so that you can monitor the current drain on the batteries in operation. Even a minor change in propeller selection can make the difference between safe and unsafe battery operation but you won't know unless you can monitor current levels.