

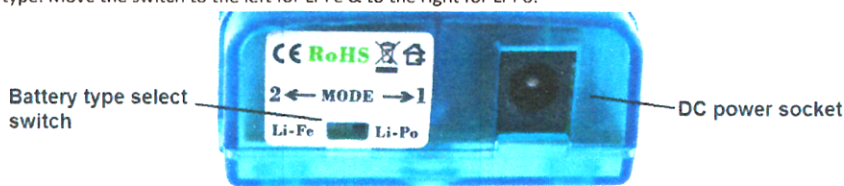
Lithium-Polymer (Lipo) / Lithium-Ferrite (LiFe) Smart Charger operating instructions.

Safety First!

1. This charger must only be used & stored in a dry environment, away from sources of moisture, heat & direct sunlight.
2. This charger is suitable for charging only lithium-polymer (Lipo) battery packs, with nominal voltages of 7.4V or 11.1V (2S or 3S) or lithium-ferrite (LiFe) battery packs with nominal voltages of 6.6V or 9.9V. Charging any other battery types, or other battery voltages, should not be attempted.
3. Batteries should only be charged in an open, uncluttered space, away from any combustible materials.
4. Should the charger's casing, or any of the leads become damaged, it should not be used. In such cases it should be referred to a suitably qualified technician for repair in order to avoid a hazard.
5. Lithium-polymer & Lithium-Ferrite batteries should only be charged within the temperature range 0°C ~ 50°C

Operation.

1. Operation of this charger is simplicity itself. Simply plug the 12V dc power supply into the mains & connect to the charger, the red power LED will illuminate.
2. On the side of the charger, next to the power supply input socket, is a small switch to select the battery type. Move the switch to the left for Li-Fe & to the right for Li-Po.



3. Connect the battery balance plug to the charger. The charger will accept JST-XH type plugs, 3-pin for 2S (6.6V LiFe / 7.4V Lipo) batteries & 4-pin for 3S (9.9V LiFe / 11.1V Lipo) batteries. Batteries with other types of balance plugs will require a suitable adapter. **Do NOT try to force a different connector into the charger output socket.**
4. Once connected the green charging LED will flash rapidly (approximately 2 – 3 times per second) Note: If the red LED also flashes, this indicates that the voltage of one or more of the cells within the battery pack is too low for the charger to safely charge & so this battery cannot be charged with this charger. This is an important safety feature, as charging a lithium-polymer battery when the voltage has dropped too low can, in extreme cases, cause it to ignite.
5. The green LED will stop flashing & stay on once the battery is fully charged, at this point the charger will stop the charging process, so that the battery will not become overcharged.
6. Disconnect the battery.

Charge Times.

There are many factors which can effect the length of time a battery will take to charge, so the following formula should be taken as a rough guideline only. Charge current for Lithium-Polymer batteries is 1,000mA (1 Amp) and for Lithium-Ferrite batteries is 1,500mA (1.5 Amps)

$$\frac{\text{Battery Capacity}}{\text{Charger Output}} \times 1.1 = \text{Charge Time in Hours}$$

For example, a 1600mAh lipo battery being charged with this charger (at 1000mA) would work out as follows:

$$\frac{1600}{1000} \times 1.1 = 1.76 = 1 \text{ hour } 46 \text{ mins} \quad \text{or for LiFe battery} \quad \frac{1600}{1500} \times 1.1 = 1.17 \text{ hours} = 1 \text{ hour } 10 \text{ mins}$$