

# 2-3 CELL BALANCER CHARGER MANUAL

**E\_sky**®

## Li-poly battery introduction

### Li-polymer battery (also called macromolecule Li battery)

Li-polymer battery (also called macromolecule Li battery) is a new type of battery without memory effect with the advantage of high energy density, good rechargeable feature, light weight, low automatic discharge rate, high safety and long life, the voltage of the single battery can reach at 2000mAh. It can charge or discharge more than 1000 times.

## Introduction of supplying power

### Make sure to set the special voltage and battery parameter used for the special charger

- 1) Connect the positive and negative of the battery with the red and black clip individually if using a power supplier or 12V storage battery.
- 2) Please connect the AC plug of the adapter with the power jack and connect the DC plug with the DC jack of the charger when using electric supply.
- 3) When in a car, first plug the cigar plug wire into the jack of the car then plug the DC jack into the DC jack of the charger.



3-cell li-battery pack/11.1v/1000mA



2-cell li-battery pack/7.4v/800mAh

1.



POWER SUPPLIER



CONNECT METHOD



STORAGE BATTERY



CONNECT METHOD

2.



ADAPTER



CONNECT METHOD

3.



DC POWER SUPPLIER FOR CAR



CONNECT METHOD

## Charge process

1. Connect the charger with power, then the red power indicator lights up, which indicates that the power connection is normal.
2. Connect the 2 cells or 3 cells Li-polymer battery with charging ports of charger respectively or simultaneously, then the green charging indicator flashes and it indicates the battery is on charge.
3. Green indicator stops flashes shows that the battery is full. **Warning: Charge time can't exceed 120 minut**

## Charging precautions

1. After connecting the power, the red indicator would get light, otherwise, it indicates that power connection goes wrong. (fig 1)
2. Green indicator would flash after connecting the battery with charger, which indicates that battery is on charge. If green and red indicators flash simultaneously, it indicates the error with battery, please check whether the battery has been damaged. If green indicator goes out and red indicator flashes, it shows that the charger is under protection mode, please disconnect the power for 3 seconds and switch the power on again.
3. Green indicator gets constant light after the charge finished. If the battery has not been unplugged for a long time after charge finished, the battery would be recharged when single battery voltage is lower than 4.15V after self discharge. Also, this procedure will circulate, make sure the battery is in saturated state. (fig 2)
4. Take the battery out from the helicopter while charging.
5. Fire or serious injury would be resulted in under certain conditions, so please follow the instructions and never leave equipment unattended while charging.
6. Keep the battery charged in cool and ventilating place and be away from heat source, flammable and explosible materials.
7. To ensure secure and quick charging, please use ESKY original chargers.



电源指示灯  
Power light



绿灯闪烁  
the green indicator twinkles

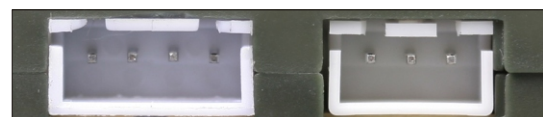
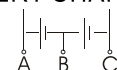
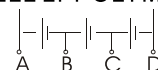


绿灯停止闪烁  
Green indicator stops twinkling

## 2-3 cell Li-Polymer battery charger specification

Input Voltage: DC11.5~13.5V  
Input Current: 1500 mA  
Single battery full voltage:  $4.2V \pm 0.05V$   
Minimum chargeable battery voltage: 1.25V (the charger will indicate that there no battery if single cell voltage lower than this parameter)  
The restoration time of defective battery: 3 MIN (If restoration still can not be finished when overtime, that indicates that the battery has been damaged)  
Practicable charge current: 750 mA  
Compatible chargeable battery: 11.1V 1000mAh; 7.4V 800mAh  
Li-Polymer battery  
Final Voltage:  $8.4 \pm 0.1V$  2 cells ;  $12.6V \pm 0.1V$  3cells

## INTERFACE CORRESPONDING DRAW FOR 2-3 CELL LI-POLYMER BATTERY CHARGER



- 1) You can choose the port of "A(-)C(+)" for charging 2 cell (in series) Li-polymer battery.

(Example Picture)



- 2) You can choose the port of "A(-)C(+)" for charging 3 cell (in series) Li-polymer battery.

(Example Picture)



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## 锂聚合物电池介绍:

锂聚合物电池 (Li-polymer battery, 又称高分子锂电池) 具有能量密度高、单电池电量高达2000mAh、轻量化、自放电率低、无记忆效应、可充电性好、寿命长(超过1000次以左右)、安全性高等多种明显优势, 是一种新型电池。

## 电源供给介绍

\*确保正确设定锂电专用充电器上面的电压或是电池颗数的专用参数, 在此介绍几种简便的输入电源以供参考:

- 1) 使用供电或12V蓄电池供电, 将充电器红、黑鳄鱼夹分别夹住蓄电池正负极。
- 2) 使用市电, 请先将电源适配器AC接头接入电源插座, 然后将DC接头插入充电器DC插座。
- 3) 使用车载电源, 请先将“雪茄头插入线”的雪茄头插入汽车雪茄头插座, 然后将DC接头插入充电器DC插座。



3节锂电池组/11.1V/1000mAh



2节锂电池组/7.4V/800mAh

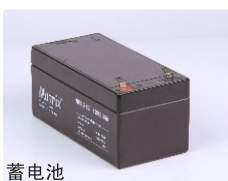
1.



供电器



蓄电池



2.



适配器



3.



DC车载(雪茄头)供电电源



连接方式

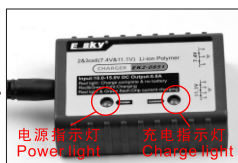
## 充电步骤

1. 将充电器与电源连接, 此时充电器电源指示灯显示红灯, 电源连接正常。
2. 将需要充电的2节或3节锂离子电池分别 (可以同时) 插入充电器电池接口, 此时充电器绿色指示灯闪烁, 表示正在充电。
3. 待绿色指示灯停止闪烁时表示电池已经充满。

⚠ 警告: 充电时间最长不能超过120分钟。

## 充电注意事项

1. 接同电源之后, 电源指示灯红灯会恒亮, 红灯未亮表示电源没有连接好 (图1)。
2. 当电池连接好后, 绿色指示灯会闪烁, 表示正在充电; 如果指示灯红灯和绿灯同时闪烁表示电池有误, 请检查电池是否损坏; 如果绿灯不亮, 红灯闪烁时表示充电器进入保护状态, 请断开充电器电源3秒以后重新接通电源。
3. 充电完成后绿色指示灯点亮, 如果电池长时间不断开时, 自放电使单节电池电压低于4.15V时充电器会重新给电池充电, 直至再次充满, 而且此过程会反复进行, 确保电池为饱和状态。(图2)
4. 充电时电池必须从模型上取下来再进行充电。
5. 锂聚合物电池在充电时必须有人看护。
6. 充电器充电时应放在干燥通风处, 远离热源, 远离易燃易爆物品。
7. 为了您更安全快捷的充电, 请使用ESKY原厂出品的充电器。



电源指示灯 Power light 充电指示灯 Charge light



Fig 1

绿灯闪烁 the green indicator twinkles



Fig 2

绿灯停止闪烁 Green indicator stops twinkling

## 2-3节锂聚合物电池充电器规格

输入电压: DC11.5~13.5V  
 输入电流: 1500mA  
 单节电池充满电压:  $4.2V \pm 0.05V$   
 最小充电电池电压: 1.25V (低于此值认为没有电池)  
 坏电池修复时间: 3MIN (超时仍未修复停止充电指示电池坏)  
 实际充电电流: 750 mA  
 适合充电电池: 11.1V 1000mAh; 7.4V 800mAh 的锂离子电池  
 终止电压:  $8.4 \pm 0.1V$  2节;  $12.6V \pm 0.1V$  3节

## 2-3节锂聚合物电池充电接口对应图

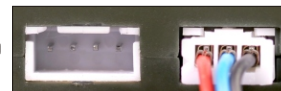


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- 1). 充二节 (串联) 锂聚合物电池, 可以选择 “A (-) C (+)” 端口。

(示例图之一)



- 2). 充三节 (串联) 锂聚合物电池, 既可选择 “A (-) D (+)” 端口。

(示例图之一)

