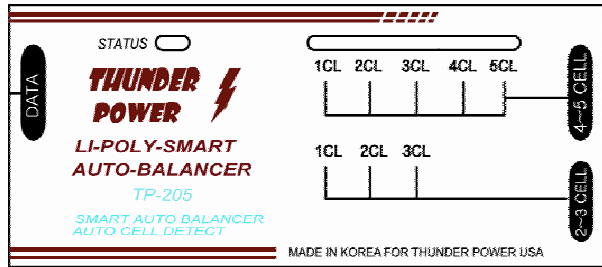


TP-205 LITHIUM POLYMER BALANCER

User's Guide

TP-205 advance balancing technology provides active balancing and safer charging for your Li-Poly batteries, it is important to read the manual and use the balancer correctly. Use this balancer for 2 to 5 cell pack **ONLY** (for 6 to 10 cell pack, please use TP-210 balancer)



Features:

1. Auto cell detect for any 2 to 5 cells pack
2. Check and display battery conditions
3. Imbalance voltage warning
4. Over voltage warning
5. LED(s) display each cell in bleeding/balancing
6. Alerts full charge status
7. Provided data port to interface to TP-charger or other options

Auto Checking battery pack conditions:

1. Plug Li-poly Pack into the Balancer connector(4 or 6 pins)
(Allows only one connector plug-in either 4pin or 6pins)
2. Wait 4-5 sec until the balancer displays battery pack conditions as below:

A: Imbalance under 0.03V: yellow status LED "on", red LED(s) "on"
Allows normal charging

B: Imbalance 0.03 to 0.2V: yellow status LED"off", red LED(s) flash for 5 seconds

Charge at 0.5A to condition/ balance the pack for 800mAh and larger pack
Charge at 0.3A to condition/ balance the pack smaller 800mAh

Monitor the pack during charging, if the pack becomes balanced during charging, you may then charge with normal rate

C: Imbalance over 0.2V: yellow status LED"off", red Cell LED(s) flash for 60 seconds

Battery may require repair, please investigate battery pack or you may attempt to repair the pack by 300mAh balancing/conditioning charge **(Please monitor throughout charging)**

Additional audio alert:

- Cell voltage below 3.2V, audio beeps for 5 seconds
- Cell voltage over 4.3 V, audio beeps continuously

<Charging battery pack>

1. After checking the battery, connect the battery power lead to the charger, select charge rate according to battery capacity and battery condition (see previous page)
2. Full charge alerts: Double beeps 6 times, repeats every 30 seconds, "STATUS LED" solid ON (Stop charging or wait until charge is completed)
3. Over charge warning (Any cell voltage over 4.3V): Double beep and "STATUS LED" flash **(Stop charging immediately)**
4. Imbalance over 0.2V while charging: Cell LED(s) are flashing and beeping for 10sec, this will be repeated every minute until conditions change(reduce charge rate to 0.3A and carefully monitor charging condition)

<Charging with pulse charger (Astro 109)

1. Charge completion alerts may be activated during phase 3 (double beeps 6 times)
2. Verify the cell count setting, if correct, you may continue charging until charge finish

<Auto self Balancing>

1. Plug balancer connector to balancer- do not charge battery
2. Balancer will bleed/balance if balancing is necessary(LEDs flashing)

<Precautions>

1. **Do not connect 4 pin and 6 pin connectors at a same time**
2. **Do not connect 2 balancers to a single pack**
3. Do not use in a vehicle
4. Do not use in direct sun light
5. Do not use when ambient temperature is extremely high
6. Use and store in a dry environment
7. Un-plug balancer from the Li-poly pack when not in use.

<Specifications>

1. 0.1% reference voltage controlled by micro-computer chip
2. Balance cells: 2 to 5 cells in series
3. Balance start voltage:4.1V or 3.2V for >0.03V imbalance
4. Bleeding current: Max 420mA
5. Imbalance control voltage:+/- 0.005V
6. Under voltage warning: 3.2V +/- 0.01V
7. Over voltage warning: 4.3V
8. Full charge indicator: One or more cell 4.2V and all others within 0.01V
9. Size:1.5" x 3.52" x 0.54"(38mm x 90mm x 14mm)
10. Auto self balance +/- 0.005V(cell voltage >4.1V/cell)
11. Auto self balance +/- 0.015V(cell voltage <4.1V/cell)

Pack connection diagram

