

Astro “Blinky” Battery Balancer

p/n 106

- **This Battery Balancer is specially designed for Lithium Batteries.**
- **The balancer accepts one to six cell lithium battery packs.**
- **Now you can see if all cells are above 3.2 volts before charging.**
- **Now you can Balance your pack while you are charging.**
- **Now you can Balance your pack after you are finished charging.**
- **Now you can Discharge individual cells that are over charged.**
- **Now you will know that your batteries are balanced.**
- **Connector has 0.100 in pin spacing with 0.025 square pins and fits Apogee and other brands. Pins should be in order of Voltage, for example on a 3 cell pack black = negative, 1st white = 4v, 2nd white = 8v, red = 12volts. There should be no gaps or missing pins in the sequence.**

Using Your New Balancer

Low Voltage Check. First connect the Balancer to the Lithium pack. Connect the most negative connection on the battery to the most negative pin on the balancer. If all cells are 3.2 volts or more all LED's will turn on and remain lit for 10 seconds. If you have a three cell pack the first three LED's will turn on. If one cell in your pack is low and has less than 3.2 volts, then it's LED will not turn on. This means that your battery pack has been discharged too far. **DO NOT CHARGE FAST!!** Set your charge rate between 0.1 amps and 0.2 amps and wait until the LED's begin to blink again. This indicates that at least one cell has reached 3.9 volts or more. Disconnect balancer and then reconnect for another Low Voltage Test. Repeat as needed until all LED's turn on for 10 seconds indicating that all cells have at least 3.2 volts. Then you can proceed to charge normally.

Balancing While Charging Connect the balancer and wait for the low voltage check. If all cells show 3.2 volts you can proceed with a normal charge sequence. The LED lamps will remain off until one cell reaches a voltage of 3.9 volts. Then balancing will begin. By the time the charge is complete the pack should be balanced. If the cells blink at random the pack is closely balanced. Let balancing continue until all LED are off. Your pack is now totally balanced. If a few LED's remain on all the time these cells have a higher voltage then the other cells and you pack needs more balancing. When the charging is almost complete some or all of the LED's may blink as the charger turns on and off during phase three. This is OK.

Balancing After Charging Connect the Balancer to the pack. The balancer will begin discharging every cell that has more than 4.25 volts. When all cells are 4.25 volts or less then the balancer will begin balancing to the lowest cell. When all the LED's turn off or occasionally blink at random, then the pack is balanced.

Blinky operation at different Voltages

High Voltage region 4.25 volts or more.
Any cell above 4.25V will be discharged
and the corresponding LED will be on.

Balancing region between 3.9 volts and 4.25 volts.
Blinky will measure the voltage of each cell.
Blinky will discharge higher voltage cells down
to voltage of lowest cell. When pack is balanced
all LED will be off.

Initial test region between 3.2 volts and 3.9 volts.
when pack is connected the LED will come on for
10 seconds for every cell in the pack that is over 3.2 volts
If any cell is below 3.2 volts its corresponding LED
will not come on.

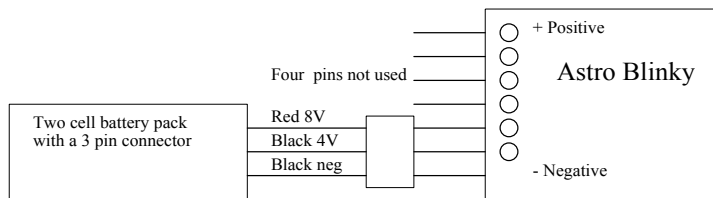
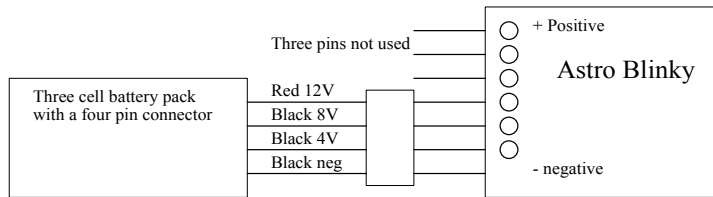
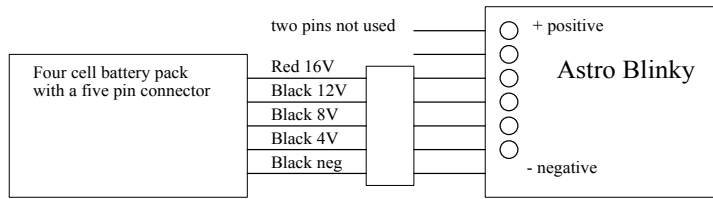
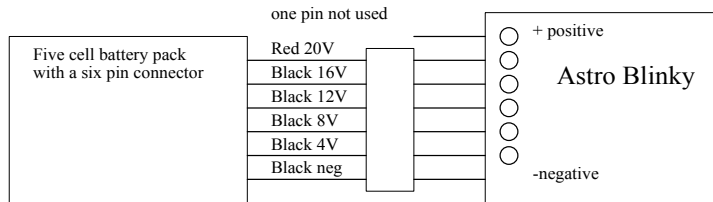
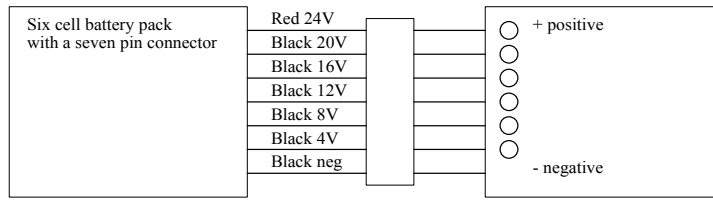
Low Voltage region below 3.2 volts. No LED will turn on.
NEVER FAST CHARGE at this low voltage.
Trickle charge only at 10% rated capacity.
charge 2100 mahr cells at 200 ma max

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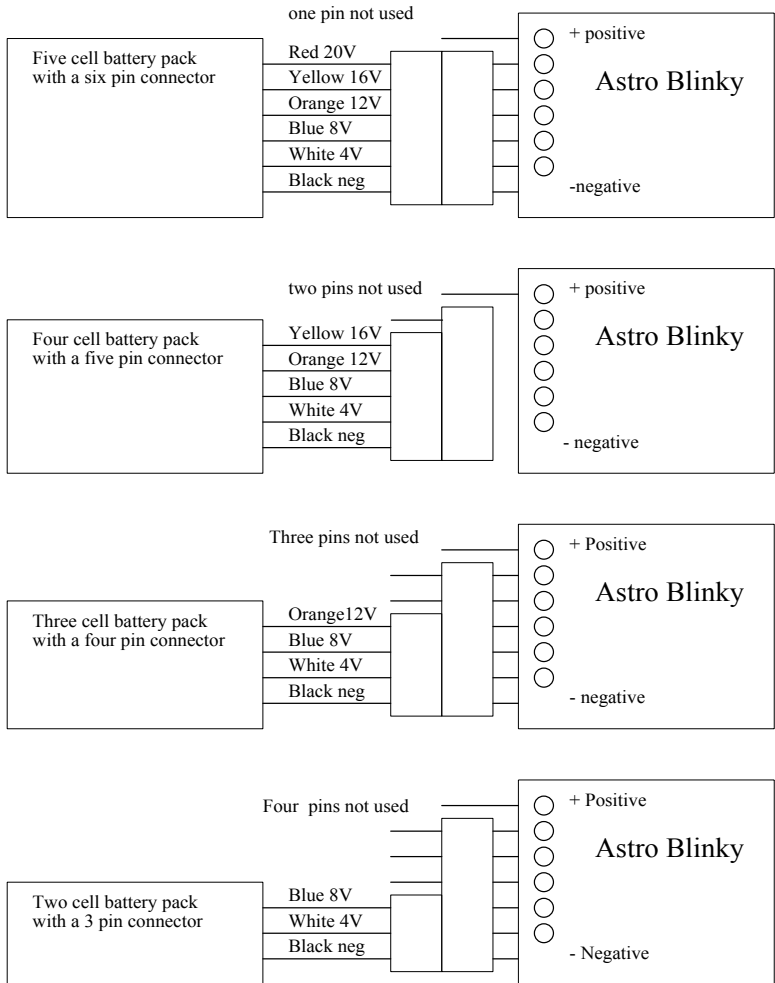
Phone (310) 821-6242, Fax (310) 822-6637

Web site: www.astroflight.com

Balancing Battery packs with std connectors:
Apogee Vampower, 2Dog RC , E power etc.



Balancing Battery packs with 2 mm connector: Thunder Power, Apex and others. using the Thunder Power Adaptor pn 549



Balancing Battery Poly Quest and Hyperion battery packs with five pin connectors and skipped pins

