

Specification

1. Input voltage range 9~15V DC
2. Output 8.4V (4.2V x 2) x 2, or 12.6V (4.2V x 3) x 1, or 16.8V (4.2V x 4) x 1.
3. CC (2.0A charging current) and CV (4.2V charging voltage) charging technique.
4. Auto adjustment of the charging current at voltage peak region. Auto cutoff when battery cell is fully charged.
5. This is an innovative charger for 1- 4 cells of (Minimum 360 mAh) Li-ion or Li-poly battery packs. It can be used to charge 4 ea 1 cell packs (optional by using 2 ea series charge adaptor cables for port of 7.4V), or 2 ea 2 cell packs, or 1 ea 3 cell packs or 1 ea 4 cell packs.
6. LED indication, red color for charging, green color for charger ready or battery cell fully charged.
7. Instead of charging all cells of the battery pack in series, this charger will independently control the charging process of each cell of the battery pack. It will completely eliminate the interference between cells of the battery pack during charging process. It will also avoid the possibility of fire or explosion caused by a problem battery pack with defective cell(s) inside.
8. Load polarity & short protection. In-put polarity protection.
9. Sturdy aluminum case & exhaust fan for maximum heat dissipation.
10. Auto cutoff charger operation when voltage of the power source is lower than 8V.
11. Size : 132 x 82 x 35 mm. Weight : 313 gm (~11oz)

Operation instruction – PARALLEL CHARGING

1. Connecting charger to power source, LED display will be green, indicating that the charger is in good status & ready to use. Set Current Select to suitable position: 0.5A --- For cells with 360 mAh or higher, 1.0A --- For cells with 750 mAh or higher, 1.5A --- For cells with 1200 mAh or higher, 2A --- For cells with 1800 mAh or higher. When charging multiple cells or packs of different capacities at the same time, charger must be set to the setting of the lowest cell.
2. Select correct charger output ports (connectors) for the battery packs to be charged. There are 4 out-put ports of the charger, the two ports labeled 7.4V are for 2 cells (3.7V x 2), the port labeled 11.1V is for the 3 cell battery packs & the port labeled 14.8v is for the 4 cell battery packs. After connecting battery packs to the charger, a short auto-check of each cell of the battery pack will be done by the charger. After the auto-check, the charger will start charging each cell of the battery pack independently. During charging process, if the cell is good the corresponding LED display will change to red; otherwise, if the cell is defective, the corresponding LED display light will be green.
3. When charging starts, for a good battery pack, the number of the LED displays which change color into red shall be the same as the number of the cells of the battery pack. For example, a 2 cell battery pack will have 2 LEDs in red color during charging, a 3 cell battery pack will have 3 LEDs in red color during charging, a 4 cell battery pack will have 4 LEDs in red color during charging.
4. When the battery pack is fully charged, all corresponding cell - LED colors will change from red to green. This indicates the battery pack is fully charged and ready to use any time. If the battery pack remains on the charger after fully charged, the charger will re-charge the batteries when the voltage of the battery cell (cells) is less than 4.15V.
5. Within 20-30 seconds after the battery or pack is fully charged, the charger will detect and indicate any problems by changing the LED colors from green to red for a defective or failing battery. If the charger detects a defective or failing battery, the defective or failing battery should not be used.

Special instructions

1. Potential Fire or Explosion Hazard of batteries or packs charged by series charging technique

Most of the Li-ion/polymer chargers on the market are using series charging technique to charge the Li-xx batteries. The series charging technique is circuit connected as Drawing 1 indicated. In case, if one of the cells of the battery pack is defective & can't be full charged up to its defined full voltage level, the other good cell or (cells) will then be over charged. Take cells in drawing 1 for example, if cell A is defective & can only be charged up to 2.8V or lower, the good cell B will then be overcharged up to $4.2 + (4.2 - 2.8) = 5.6V$ or higher. A Li-xx battery can only stand its maximum voltage up to 4.6~4.9. If it is over 4.9V, it can burn or explode. Series charging is necessary for battery packs that must be charged through the discharge wires.

2. Parallel charging technique of our charger-circuit connected as drawing 2 Dotted Lines

Instead of charging all cells of the battery pack in series, our charger is designed to control the charging process of each cell of the battery pack independently or in parallel. It will completely eliminate the interference between cells of the battery pack during charging process. It will also

reduce and avoid the possibility of fire or explosion caused by a problem battery pack with defective or unbalanced capacity cells inside.

3. Special battery pack package style is required

The battery packs to be charged on this charger should be assembled as in drawing 2. Every battery pack should have one additional charge connector. By connecting this connector to the respective charger out-put port, you are now safely charging to your Li-xx battery packs.

4. Life of the Li-xx battery packs

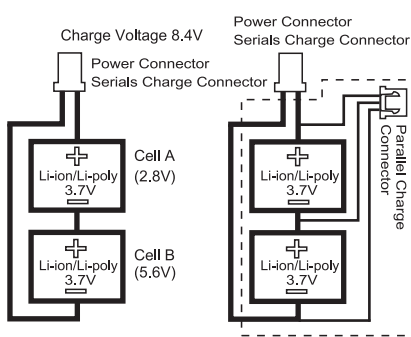
When in storage and not in use, the Li-xx battery will have a self-discharge process. It will be severely damaged or rendered unusable if it is allowed to discharge to less than 2.4V. It is strongly recommended to check / recharge all Li-xx batteries once every 3 months.

5. The number of cells of the battery packs being charged by this charger is limited at 4 cells maximum.

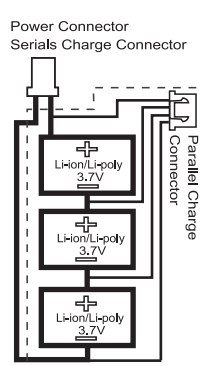
That is, the charger is not allowed to charge a 3 cell pack & a 2 cell pack at the same time, or a 4 cell pack & any additional batteries at the same time.

6. DISCLAIMER

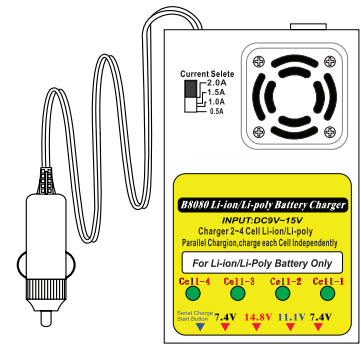
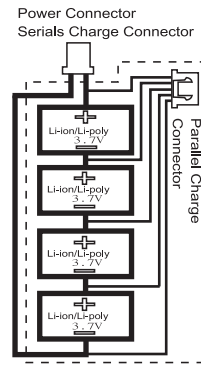
The manufacturer or distributor shall not be held responsible for any miss-use of the charger.



Drawing 1



Drawing 2



Drawing 3

Series charge operation instruction (Not recommended, but necessary for battery packs that must be charged through the discharge wires. See warning under #1 of the special instructions)

1. Connecting charger to power source, all LED displays will be green, indicating that the charger is in good status & ready to use. Set Current Select to suitable position; 0.5A --- For cells with 360 mAh or higher, 1.0A --- For cells with 750 mAh or higher, 1.5A --- For cells with 1200 mAh or higher, 2A --- For cells with 1800 mAh or higher. When charging multiple cells or packs of different capacities at the same time, charger must be set to the setting of the lowest cell.
2. Select correct charger out - put ports (connectors) for the battery packs to be charged. There are 4 out-put ports of the charger, the 2 ports labeled 7.4V are for 1 or 2 cells (3.7V x 2), the port labeled 11.1v is for the 3 cells battery pack, the port labeled 14.8V is for the 4 cells battery pack.
3. Connect the serial charge adaptor to the relative charger out-put ports. P/N B82618 series charge adaptor matches to 7.4V out-put port for 2 ea single cell battery pack . P/N B82614 series charge adaptor matches to 7.4V out-put port for 1 ea 2-cell battery pack. P/N B82616 series charge adaptor matches to 11.1V out-put port for 3-cell battery pack. P/N B82617 series charge adaptor matches to 14.8V out-put port for 4-cell battery pack.

4. Connect the battery packs to the series charger adaptors & push down the start button. The charger will start charging. During charging process, the corresponding LED displays on the charger will turn red. While charging, the number of the LEDs which change color to red will be the same as the number of the cells of the battery pack. For example, a 2 cell battery pack will have 2 LEDs in red during charging, a 3 cell battery pack will have 3 LEDs in red during charging, a 4 cell battery pack will have 4 LEDs in red during charging. If the number of the lighted LED displays are not the same as the number of the cells of the battery packs, reset the charger by pushing down the start button again to make both numbers the same. If it's not possible to get the both numbers at the same figure after pushing down the button again, the battery pack has a defective or failing cell and should no longer be used.
5. When the battery pack is fully charged, all relative LED colors will change from red to green. It indicates the battery pack is fully charged and ready to use any time.
6. The number of cells of the battery packs being charged by this charger is limited at 4 cells maximum. That is, the charger is not allowed to charge a 3 cell pack & a 2 cell pack at the same time, or a 4 cell pack & any additional batteries at the same time.

IMPORTANT PRECAUTIONS

- ※ Do not attempt to charge incompatible type rechargeable batteries as permanent damage to the battery and charger could result.
- ※ Do not allow water, moisture or foreign objects into the charger.
- ※ Do not block the air intake holes or the fan vent, which could cause the charger to overheat.
- ※ Do not attempt to use batteries with more cells or total voltage more than listed in the specifications.
- ※ Do not leave the charger unattended while charging. **Disconnect the battery and remove input power from charger immediately if the charger becomes hot! Allow the charger or battery to cool down before reconnecting.**
- ※ DO not place the charger or battery on a flammable surface or near a flammable object while in use. Keep away from carpets, cluttered work benches, etc.
- ※ Always disconnect from power source when not in use.
- ※ Do not overcharge batteries as permanent damage could result. Do not use a charge or discharger current rate which exceeds the safe level of the battery. Do not attempt to charge or discharge a battery if it is hot.
- ※ Keep out of reach of children.

