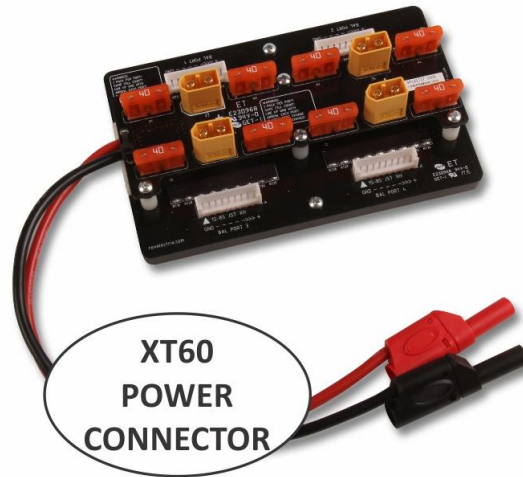
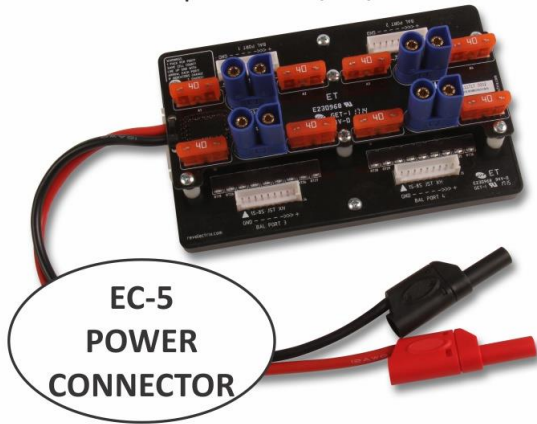




4P

User Guide Updated 07/28/17



INTRODUCTION:

Thank you for purchasing the MPA-4P (Multi-Port Safe Parallel Adapter) for XH equipped battery packs. There are 3 different models of the MPA-4P; each supporting one of the three most popular power connectors in the R/C Industry. If you are unsure about which model you purchased, consult the above images. The complete PN is defined by the suffix following the base PN; e.g., MPA-4P-EC5 supports Li battery packs with the EC-5 connector, MPA-4P-XT60 supports Li battery packs with the XT60 power connector, and MPA-4P-T-CONN supports Li battery packs with the T-style power connector (also referred to as the “Deans Ultra[™]”). All four models are configured for JST XH balance plugs and wiring. To maintain the smallest possible footprint, the 9 position JST XH header installed on the four ports of the MPA-4P is modified to remove the polarizer. This facilitates connection of any number of series-wired cell packs between 1s and 8s on each of the available four ports. Refer to the instructions below which details how to properly insert the balance plug of any 1s-8s Li battery to each port of the MPA-4P. If you are interfacing the MPA-4P to Revolatrix PowerLab Battery Workstations or the Cellpro 10XP charger, you will need to change the default wiring mode from FMA WIRING to XH WIRING. Please consult the user guide for your product for information on selecting the XH WIRING MODE. Unlike standard Revolatrix adapters which convert XH wired batteries to the original Cellpro (FMA) convention, the MPA-4P is a native XH compatible adapter. Furthermore, unlike standard Revolatrix adapters, the MPA-4P does not support balance-wire-only charging.

GUIDELINES FOR SAFE OPERATION:

WARNING: FAILURE TO FOLLOW THE GUIDELINES PROVIDED BELOW COULD RESULT IN FIRE AND/OR DAMAGE TO YOUR BATTERY PACKS!

- **All packs connected in parallel MUST have the same cell count or damage will occur to your battery packs! If not corrected immediately, fire could result!**
- Li packs connected in parallel to the 4 available ports may have different capacities. Sum of all capacities = 1C.
- Connect ONE pack ONLY to each adapter port when charging Li batteries.
- Never charge NiCd or NiMH batteries in parallel!
- Never connect Ni or Pb battery packs to the MPA-4P.
- When balance-charging multi-cell Li batteries on ports 1-4, attach the “balance” interconnect cable, or “FRC” (purchased separately) between the MPA-4P and the charger.
- When charging any Li batteries, always connect the red and black Safety Banana Jack leads, observing proper polarity! The MPA-4P does not support balance-wire-only charging. Note: If your charger does not support Safety Banana Plugs, check below for instructions for modifying them so they will plug into standard banana jacks.
- The MPA-4P is equipped with self-resetting thermal fuses which protect every cell/balance wire of every pack connected. These are covered by a special thermal indicator tape. **IMPORTANT:** The “normal” or “cold” color of the indicators is BLACK. If there is ever a problem with the batteries you connect to the MPA-4P such as reverse polarity or a shorted cell, the thermal indicators will change color from black to red over the device which is protecting the cell(s) causing the problem. If you ever see the indicators change colors, immediately disconnect the batteries and locate the source of the problem. The indicators will automatically return to normal color when the bad pack is removed and they cool down. After repeated use, the indicators may remain tinted slightly. This is normal.
- Each port’s power connector is also protected by dual 40A fuses in each positive/negative lead. Never exceed 40A maximum charge rate on a single port, or you will blow the fuses.

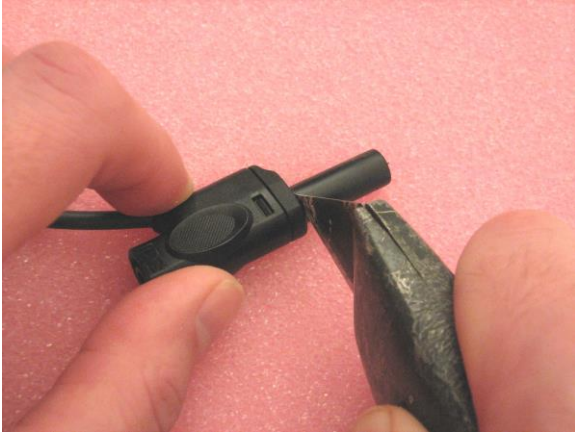
HOW TO PROPERLY INSERT ANY 1S-8S JST XH BALANCE PLUG INTO THE MODIFIED JST XH 9 POSITION HEADER

- On the PCB silkscreen, note that for each balance port, the text “GND” with an arrow points to the GROUND pin of the 9 position JST XH balance header
- When looking straight down on the MPA-4P from the top, the GND pin for each of the balance headers is always toward the left side of the assembly
- Always align the ground wire (usually black) on the balance plug coming from the battery pack to the pin marked GND
- If the battery pack is an 8s pack (8 cells wired in series), every pin of the balance header on the MPA-4P will be populated
- If the battery pack has fewer than 8 cells wired in series; e.g., 1s - 7s, one or more pins of the balance header on the MPA-4P will remain un-populated, and the un-populated pins should always be on the balance header end away from the pin marked GND

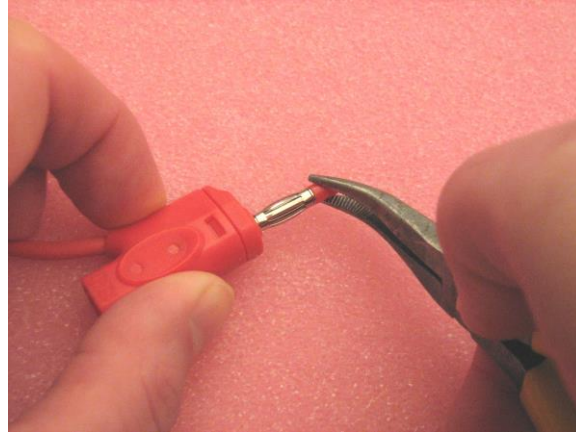
WARNING: FAILURE TO PROPERLY ALIGN THE BATTERY’S BALANCE CONNECTOR WITH THE MPA-4P BALANCE HEADER MAY RESULT IN DAMAGE TO THE BATTERY PACKS CONNECTED AND/OR THE CHARGER TO WHICH THE MPA-4P IS CONNECTED!

MODIFYING SAFETY BANANA PLUGS:

As received, the MPA-4P's main pack leads are equipped with Safety Banana plugs. These will plug directly into PowerLab series battery workstations. However, to use these cables with the Cellpro 10XP and other chargers, you may need to either replace these connectors with standard banana plugs or 4mm "bullet" connectors, or modify the Safety Banana Plugs as shown below. Follow the steps below to modify both the red and black Safety Banana Plugs.



Using a utility knife, carefully cut the protective tube from around the banana plug as shown and remove.



Using small pliers, remove the rubber tip from the banana plug as shown.



This is what the plug should look like when you are done.