

Interpreting the Status Module LED and tones

This LED pattern...	Means this...
Repeating single flash	Brown out; possible loose connection
Repeating double flash	One cell has reached 4.2V; charging stops

Cellpro 4s CPM specifications

Maximum charge current	≤1C for the connected pack or 10A, whichever is lower
Dimensions	1.50" (not including telemetry output connector) x 1.00" x 0.40"
Weight	0.63oz (18g)

FMA limited warranty for power management components

FMA, Inc. warrants this product to be free of manufacturing defects for the term of 90 days from the date of purchase. Should any defects covered by this warranty occur, the product shall be repaired or replaced with a unit of equal performance by FMA or an authorized FMA service station.

Limits and exclusions

This warranty may be enforced only by the original purchaser, who uses this product in its original condition as purchased, in strict accordance with the product's instructions. Units returned for warranty service to an FMA service center will be accepted for service when shipped postpaid, with a copy of the original sales receipt or warranty registration form, to the service station designated by FMA.

This warranty does not apply to:

- Consequential or incidental losses resulting from the use of this product.
- Damage resulting from accident, misuse, abuse, neglect, electrical surges, reversed polarity on connectors, lightning or other acts of God.
- Damage from failure to follow instructions supplied with the product.
- Damage occurring during shipment of the product either to the customer or from the customer for service (claims must be presented to the carrier).
- Damage resulting from repair, adjustment, or any alteration of the product by anyone other than an authorized FMA technician.
- Installation or removal charges, or damage caused by improper installation or removal.

Call (301) 668-7614 for more information about service and warranty repairs.



Cellpro 4s Charge Protection Module

Model CP4S-CPM
for Cellpro LiPo Battery Packs

About the Cellpro 4s Charge Protection Module

The Cellpro 4s Charge Protection Module (CPM) protects FMA Cellpro Battery Packs from overcharging during charging from a non-Cellpro charger. Cellpro Packs have special connectors that enable the Cellpro 4s CPM (as well as Cellpro 4s Discharge Protection Modules) to monitor the voltage of individual cells within the pack.

During charging, the Cellpro 4s CPM monitors cell voltages and disconnects the charge current when the first cell reaches 4.2V. This extends pack life by preventing overcharging.

Features

- Works with any standard LiPo charger.
- Handles up to a 4s Cellpro Pack.
- Three Cellpro 4s CPMs can be daisy-chained to handle up to 12 cells in series.
- Connects to charger through Deans Ultra connector.
- Integrated LED provides status information.

Precautions

- Follow all instructions in this manual to assure safe operation.
- Before charging through a Cellpro 4s CPM, allow packs to cool for one hour. During discharge, inner cells become hotter than outer cells. If a pack is charged when hot, cells will be damaged because their different temperatures result in different charge rates.
- Always watch LiPo packs while they are charging. Never leave LiPo packs unsupervised during charging.
- Follow all LiPo charging precautions, as listed in the warning sheet provided with FMA LiPo packs, including charging packs in a fireproof container and monitoring the entire charging operation.

FMA, Inc. • 5716A Industry Lane • Frederick, MD 21704
Sales: (800) 343-2934 • Technical: (301) 668-7614 • www.fmadirect.com



Charging a Cellpro Pack with the Cellpro 4s CPM

When the Cellpro 4s CPM is connected between a LiPo charger and a Cellpro Pack, the Cellpro 4s CPM monitors each cell's voltage and cuts off charge current to the *pack* when the first cell reaches 4.2V. Although the Cellpro 4s CPM cannot balance individual cells, it does protect against overcharging individual cells. This capability—not available in standard LiPo chargers—helps maintain pack performance and life expectancy.

When charging at a 1C or lower rate, you can leave the pack connected in the aircraft or remove it.

CAUTION: Never exceed a 1C charge rate when charging a Cellpro Pack with the Cellpro 4s CPM.

To charge:

1. Allow pack to cool.
2. Plug the Cellpro Pack into the Cellpro 4s CPM (as shown at right).
3. Plug the LiPo charger into the Cellpro 4s CPM's Charge Connector.
4. Charge according to instructions provided with the charger.

Note: If charging terminates early, reduce charger current.

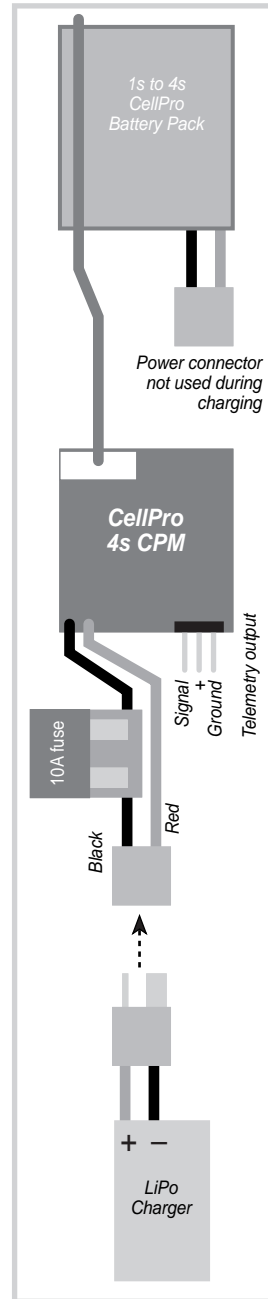
5. When charging is complete, disconnect the pack from the Cellpro 4s CPM.

Note: Leaving a pack connected to the CPM will slowly discharge the pack.

Tip: Store Cellpro Packs (and all LiPo batteries) at about ½ charge. LiPo chemistry has a very low self-discharge rate, and LiPo batteries do not need periodic recharging as NiCd and NiMH batteries do.

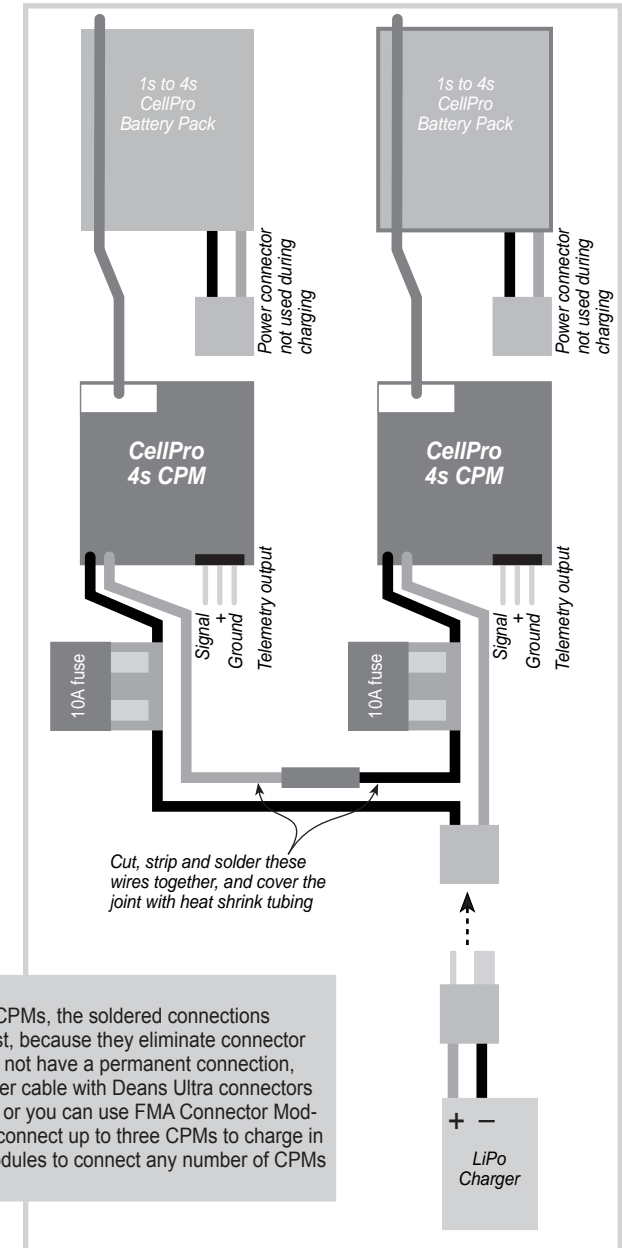
Replacing the fuse

The Cellpro 4s CPM's power input is protected by a standard miniature automotive fuse. If the fuse blows, replace it with a 10A fuse (available at auto supply stores).



Charging two Cellpro Packs at the same time

You can connect up to three Cellpro 4s CPMs in series to simultaneously charge multiple Cellpro Packs (12s maximum). Your LiPo charger must output a voltage equal to the sum of the packs. For example, if you are charging a 4s pack and a 3s pack, your charger must be able to charge a 7s pack (about 30 volts output).



Wiring alternatives

When connecting multiple CPMs, the soldered connections shown on this page are best, because they eliminate connector resistances. If you'd rather not have a permanent connection, you can construct an adapter cable with Deans Ultra connectors to achieve the same result, or you can use FMA Connector Modules. Use a CMS-HC-5 to connect up to three CPMs to charge in series. Use CMP-HC-5 modules to connect any number of CPMs to charge in parallel.