

BalancePro Pack specifications

Common specifications

Application	Electric powered radio controlled aircraft
Functions	Lithium Polymer battery power Overvoltage protection (for charging) when used with FMA Safe Charge Connector and FMA BalancePro 2s Charger Model No. LIPOCH2S10-BP
Motor support	Supports LiPo-compatible ESCs for brushed and brushless motors
Voltage output	Nominal 7.4VDC
Charge voltage cutoff	Use only with FMA BalancePro 2s charger

Model-dependent specifications

Model	Continuous output current, A	Weight, g	Dimensions, mm
BPKOK1250-15C-1P2S	18.75	92	87x45x11
BPKOK2000-15C-1P2S	30	132	80x46x18
BPKOK3200-20C-1P2S	60 (limited by pack wiring)	217	140x48x15
BPKOK3200-20C-2P2S	60 (limited by pack wiring)	382	140x48x30

FMA limited warranty for BalancePro Packs

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.



BalancePro LiPo Battery Packs for RC aircraft

featuring Safe Charge Connector (for use with BalancePro 2s Charger Model No. LIPOCH2S10-BP)

BPKOK1250-15C-1P2S, 18.75A continuous output
BPKOK2000-15C-1P2S, 30A continuous output
BPKOK3200-20C-1P2S, 60A continuous output
BPKOK3200-20C-2P2S, 60A continuous output

Features

- 2s Super High Discharge Lithium Polymer (LiPo) battery packs supply 7.4V at high continuous current.
- Up to five packs can be connected with an FMA CMS-HC-5 Series Connector Module for higher output voltage.
- Safe Charge Connector prevents cell damage from overvoltage during charging when used with FMA BalancePro 2s Charger Model No. LIPOCH2S10-BP.
- Works with both brushed and brushless ESCs (requires ESC with appropriate LiPo cutoff voltage).

Kokam/FMA Direct Lithium Polymer cells are the next-generation replacement for NiCd, NiMH and Lithium Ion cells. This unique power technology offers high energy density, low weight, long life, safe operation and environmentally-friendly chemistry. FMA Direct offers a full line of LiPo cells, packs and compatible electronics at www.fmadirect.com. LiPo technical and application information is available in the Support section of the Web site.

Precautions

- Follow all instructions in this manual to assure safe operation.
- **Charge this battery pack only with FMA BalancePro 2s Charger Model No. LIPOCH2S10-BP. FMA, Inc. will not accept liability for occurrences resulting from improper charging, use or storage. No exceptions!**
- **Never charge the pack through the Run (discharge) connector.**
- **Always disconnect the Run (discharge) connector before charging.**
- **Always charge through the Safe Charge (3-pin) connector.**
- Always watch LiPo packs while they are charging. Never leave LiPo packs unsupervised during charging.
- Allow packs to cool down before charging them.
- Follow all LiPo charging precautions, including charging packs in a fireproof container and monitoring the entire charging operation. See additional warning sheet provided with this pack.
- Wiring on the BPKOK3200-20C-1P2S and BPKOK3200-20C-2P2S packs limits continuous output to 60 Amps, even though the cell configurations are rated higher.

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Charging the BalancePro Pack

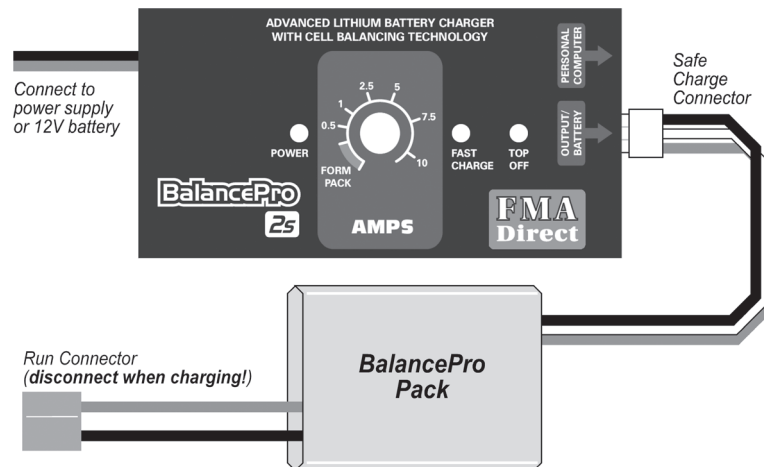
IMPORTANT:

- Make sure the ESC switch is OFF and disconnect the Run (discharge) connector, or remove the BalancePro Pack from the aircraft before charging it.
- Charge the battery pack only with FMA BalancePro 2s Charger.
- Charge only through the BalancePro Pack's Safe Charge Connector. Do not charge through the Run Connector. Charging through the Run Connector may result in damage to the battery pack and/or charger, and possibly fire. Attempts to charge through the Run Connector voids the warranty!
- If the pack is new, consider forming it to increase capacity by 1% to 2%. Instructions are in the BalancePro 2s Charger user guide.
- Charge the BalancePro Pack before using it for the first time.

Charge the battery pack only with FMA BalancePro 2s Charger Model No. LIPOCH2S10-BP. See BalancePro 2s Charger user guide for detailed information about using the charger.

BalancePro Pack Model No.	Max. charge current (3C)	Recommended current (1C)
BPKOK1250-15C-1P2S	3.75A	1.25A
BPKOK2000-15C-1P2S	6.0A	2.0A
BPKOK3200-20C-1P2S	9.6A	3.2A
BPKOK3200-20C-2P2S	10A (charger maximum)	6.4A

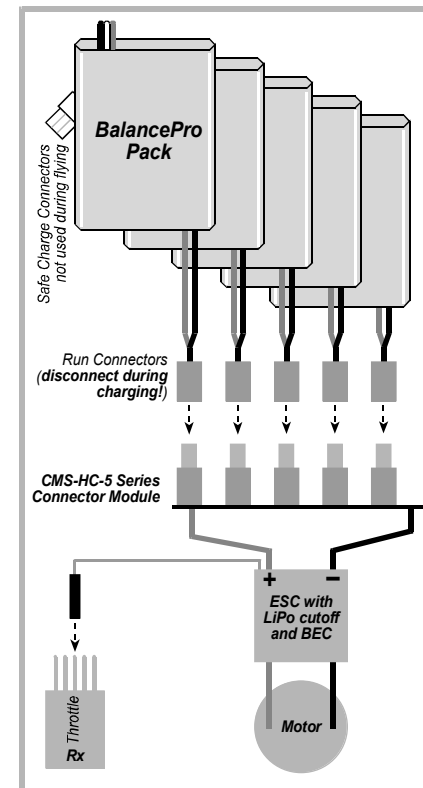
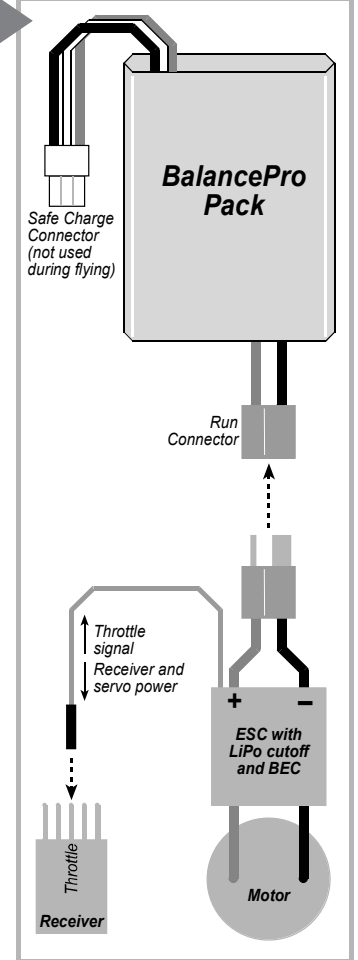
1. Disconnect the Run Connector from the ESC.
2. Set the BalancePro Charger's Current control to a level at or below the maximum recommended charge current for the pack you are charging.
3. Connect the Pack's Charge Connector to the charger's Output connector (see illustration below).
4. Apply power to the charger.
5. When charging is complete, disconnect the charger from the power source and disconnect the pack from the charger (in any order).



Installing a single BalancePro Pack

Note: Your ESC must be compatible with 2s Lithium Polymer (LiPo) packs. It must cut voltage to the motor when pack voltage drops to 5.2 to 6.0 volts. Discharging a BalancePro Pack below 5.0 volts shortens pack life and causes permanent cell damage.

1. Cover the Pack's Safe Charge Connector so its terminals cannot be shorted.
2. Attach the Pack's Run Connector to the ESC's battery connector (as shown at right).



Installing multiple packs

Use an FMA CMS-HC-5 Series Connector Module to obtain higher output voltage. The 5-pack (10s) example at left outputs 37 volts. The ESC must have a corresponding cutoff voltage. To charge, disconnect packs from the Module and charge them individually using the BalancePro 2s Charger.

CAUTION: If you are charging multiple packs with multiple chargers, you **must** disconnect the packs from the Module. Failure to do so may cause serious damage to packs and chargers—up to and including fire.