POWER MINI LECTRON PRO **INSTRUCTION MANUAL**

INTRODUCTION

Thank you for choosing the Lectron Pro Power Mini AC balance charger. This unit is simple to use but its operation does require some knowledge on the part of the user. Please read this entire operating manual completely and attentively before using this product, as it covers a wide range of information on operating and safety.

The Power Mini is an economical, high quality 100-240V AC balance charger, designed for charging LiPo, LiFe, and LiHV batteries from 2-4 cells in balance mode. It can charge 6-8S NiMH batteries also. The circuit power is 50W and max charge current can reach 4A. There are four kinds of charge current that can be selected: 1A/2A/3A/4A. You must select the proper charge current according to the battery's capacity.



WARNINGS AND SAFETY NOTES



WARNING! POTENTIAL FIRE HAZARD! THIS IS NOT A TOY. MINIMUM AGE REQUIREMENT: 14 YEARS



WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before beginning use. Failure to operate the product correctly, to exercise caution while using this product, and to comply with the following warnings can result in damage to the product, personal property, or cause serious injury.

- » Never leave charger or battery unattended during use.
- » Never charge batteries overnight.
- » Always charge batteries on a non-flammable surface and inside a fire-resistant container such as a Common Sense RC Lipo Safe Bag.
- » Never attempt to charge dead or damaged battery packs, or battery packs that have been exposed to moisture.

- Never attempt to charge a LiPo/LiHV battery that has been discharged below 3.0V on any cell.
- » Never attempt to charge a battery pack containing cells of different chemistries.
- Never charge batteries in extremely hot (over 100°F) or cold (under 32°F) places or in direct sunlight.
- Never charge a battery if the leads have been pinched or shorted. >>
- Never connect the charger if the power cable has been pinched or shorted.
- » Never attempt to dismantle the charger or use a damaged charger.
- Always use only rechargeable LiPo/LiHV/LiFe/NiMH batteries designed for use with this type of charger.
- Always inspect the battery before charging to check for damage or swelling.
- Always keep the battery away from any material that could be affected by heat.
- Always charge batteries at least five feet of any flammable object. (e.g. carpet, curtains, furniture, wood, flammable liquids, etc)
- Always monitor the charging area and have fire extinguisher available at all times.
- Always end the charging process if the battery becomes warm to the touch or begins to swell.
- Always disconnect the battery after charging and let the charger cool between charges.
- Always charge in a well-ventilated area.
- Never use a charger that has been in any way altered, damaged, or exposed to moisture.
- If product malfunctions, discontinue usage and contact Common Sense RC toll-free at 866-405-8811.

OPERATION

The Power Mini comes with the power supply built in. You can connect the AC Power cord to an AC socket (100-240V AC) directly

- Please refer to following steps to charge the battery: 1) Insert the AC power cord into the charger.
- 2) Insert the AC cord into a wall socket (100-240V). The battery type LED (default LiPo) and the charge current LED (default 2A) will glow constant white.
- 3) Connect the battery's balance connector to the balance port, which is on the front side of the charger. Then connect the battery's main (red & black) leads to the charge port. Select the battery type that matches your battery by pressing the "BATT" button.

The balance port is required for LiPo/ LiHV/LiFe batteries, but not NiMH batteries

WARNING! It is crucial to select the correct battery type setting. Selecting the incorrect battery type may result in battery damage and major fire hazard!

4) Place battery inside a fire resistant container like a LiPo safe and on a fire resistance surface before charging.



Select Battery Type



- 3) Disconnect the AC power cord from the charger

- 1 -

The charge current varies from 1A (1000mA) to 4A LiPo/LiHV/LiFe, and 0.5C for NiMH. 1C means: charge (4000mA). The recommended charge rate is 1C for current = battery's capacity

6) Charging LiPo/LiFe/LiHV Battery

Hold the "A" button for 2 seconds, and the charger will start charging. The charge status LED will glow to indicate charging is in progress.



5) Select the proper charging current (1A/2A/3A/4A) by pressing the "A" button

Example: For a 2200mAh LiPo Battery: 1C = 2200mA (2.2A) charge current. You can choose 2A current to charge the battery. For a 2800mAh LiPo Battery: 1C = 2800mA

(2.8A) charge current. You can choose 3A to charge the battery

0 0 0 0 (3ATT)

Select Charging Current

WARNING! Never leave batteries and charger unattended during charging.

EXPLANATION OF LED STATUS

25% 50% 75% 1	100%	Capacity<25%	25% LED flashing
25% 50% 75% 1	100%	$25\% \le Capacity < 50\%$	50% LED flashing
25% 50% 75% 1	100%	$50\% \le Capacity < 75\%$	75% LED flashing
25% 50% 75% 1	100%	$75\% \le Capacity < 100\%$	100% LED flashing

7) When the battery is fully charged, the charge status LEDs will glow constant WHITE. Then, disconnect the components in the following order:

- 1) Disconnect the charger from the wall outlet
- 2) Disconnect the battery from the charger

NiMH instructions are on page 4

8) Charging NiMH Batterv

- 1. Connect the battery's main (red and black) charge lead to the charge port, which is in the front side of the charger.
- 2. Select the battery type "NiMH" by pressing the "BATT" button.
- 3. Select the proper charging current 1A/2A/3A/4A by pressing the "A" button.
- 4. Press and hold "A" button for 2 seconds to start charging. The charge status LED will glow to indicate charging is in progress.
- 5. During the charging process, the capacity indicator LEDs will light up in sequence.
- 6. When the battery is fully charged, the capacity indicator LEDs will glow constant white.

WARNING:

Always make sure you are charging NiMH batteries in NiMH mode. Charging Lithium batteries in NiMH mode can lead to fire, personal injury, and property damage

STORAGE INSTRUCTIONS

If your LiPo/LiHV battery won't be used for one week or longer, it should be stored at approximately 50% charged. Storing a lipo battery either fully charged or discharged will lead to internal damage and dramatically shorten battery life.

1) After the lipo battery has been discharged, begin charging the LiPo/LiHV following the battery charging Instructions. Observe the charger carefully to watch for battery to reach storage charge level.

2) Once the 50% LED is on solid and the 75% LED is blinking, the battery will be at an appropriate storage charge level. At this point, disconnect the AC plug from the wall outlet, then disconnect the battery from the charger.

3) Store your lipo battery in a fire resistant container such as a Lipo Safe bag.

TROUBLESHOOTING	
LED Blinking Pattern	Error
All LEDs flash white ONCE and stop 2 seconds in cycle	Voltage of one cell in the battery pack is too high or too low
All LEDs flash white TWICE and stop 2 seconds in cycle	Connection error in Balance port
All LEDs flash white THREE TIMES and stop 2 seconds in cycle	Connection error in Main port

CHARGER SPECIFICATIONS

AC Input	100-240V
Battery Type	LiPo/LiFe/LiHV/NiMH
Cell Count	LiPo/LiFe/LiHV: 2-4S
	NiMH: 6-8S
Charge Current	1A/2A/3A/4A ± 10%
Cell Terminate Voltage	LiPo: 4.2V ± 0.02V / LiFe: 3.6V ± 0.02V LiHV: 4.35V ± 0.02V / NiMH: -△V
Circuit Power	50W
Current Drain for Balancing	300mA
Dimension	110x70x40mm
Weight	191g

LIABILITY EXCLUSION

This charger is designed and approved exclusively for use with the types of battery stated in this Instruction Manual. Common Sense RC accepts no liability of any kind if the charger is used for any purpose other than that stated. We are unable to ensure that you follow the instructions supplied with the charger, and we have no control over the methods you employ for using, operating, and maintaining the device. For this reason, we are obliged to deny all liability for loss, damage, or costs which are incurred due to the incompetent or incorrect use and operation of our products, or which are connected with such operation in any way. Unless otherwise prescribed by law, our obligation to pay compensation, regardless of the legal argument employed, is limited to the invoice value of those Common Sense RC products which were immediately and directly involved in the event in which the damage occured

WARRANTY

This charger includes a 1-year warranty that will cover the cost of replacing or repairing the unit in the event of any manufacturing defects. The warranty does not include any damage that may arise from improper use or user negligence. This includes:

- » Failure to read and follow instructions
- » Improper use of the product (abusive use, out of spec. etc.)
- » Overloading, overheating (desoldering, melting, etc.)
- » Using in inadequate conditions (damage or rust from rain, humidity, etc.)
- » Improper maintenance (presence of dirt, etc.)
- Disassembly or modification by the user »
- » Exposure to moisture
- » Physical damage sustained by dropping, throwing, or smashing the unit

CommonSenseRC.com Toll-Free: 866-405-8811



1-YEAR

WARRANTY

INCLUDED

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CONFORMITY DECLARATION

This appliance can be used by children aged from 14 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision. If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarly gualified persons in order to avoid a hazard.

THE PROCESS AT ONCE.

100~240V AC.

This marking indicates that this product should not be disposed with other household wastes throughout the US. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustain able reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

For EC directives:

	Test Standards	Title	Result
CE-LVD	EN60335-2-29	Household and similar electrical appliances –. Safety –. Part 2-29: Particular requirements for battery chargers.	Conform
	EN 60335-1: 2012 +A11: 2014	Household and similar electrical appliances - Safety - Part 1: General requirements	Conform
CE-EMC	EN55014-1: 2006+ A1: 2009+A2: 2011	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission	
	EN55014-2: 1997+ A1: 2001+A2: 2008 Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity Product Family Standard		Conform
	EN61000-3-2: 2014	Electromagnetic compatibility (EMC) – Part 3-2: – Limits for harmonic current emissions (equipment input current up to and incelding 16 A per phase)	Conform
	EN61000-3-3: 2013	Electromagnetic compatibility (EMC) - Part 3-3: Limitation of voltage supply systems for equipment with rated current ${\leq}$ 16 A.	Conform
FCC-SDOC	FCC Part 15B	Title 47 Telecommunication PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators	Conform



- A Never leave the charger unattended when it is connected to a wall outlet. If any malfunction is found, STOP
- A Keep the charger well away from dust, rain, heat, direct sunshine and vibration. Never drop it.
- A Never charge batteries on wood, cloth, carpet or on any other flammable material.
- \triangle During charging, the charger must be placed in a well ventilated area.
- A This charger is designed and built exclusively for RC Batteries. The allowable AC input voltage is

The Power Mini satisfies all relevant and mandatory CE directives and FCC Part 15 Subpart B: 2016.

The product has been tested to meet the following technical standards:

This symbol means that you must dispose of electrical from the general household waste when it reaches the end of its useful life. Take your charger to your local waste collection point or recycling centre.