

LECTRON PRO

ACDC-DUO

MULTI-CHEMISTRY BALANCE
CHARGER / DISCHARGER

1-YEAR
WARRANTY
INCLUDED

AC Input Voltage	110-240V
DC Input Voltage	11-18V
Charge Power	50W per channel
Discharge Power	5W per channel
Max Charge Rate	6A per channel
Max Discharge Rate	2A per channel
Balance Current	400mA/cell
# of LiXX Cells	1S-6S
# of NiCd/NiMH Cells	1-15 cells
Pb Battery Voltage	2-20V
Dimensions	7" L x 4.15" W x 2.16" H
Weight	2.8 lbs

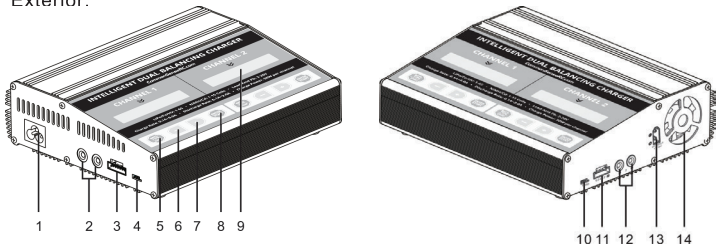
CommonSenseRC.com Toll-Free: 866-405-8811

ACDC-DUO_manual_v2.pdf

CONNECTION

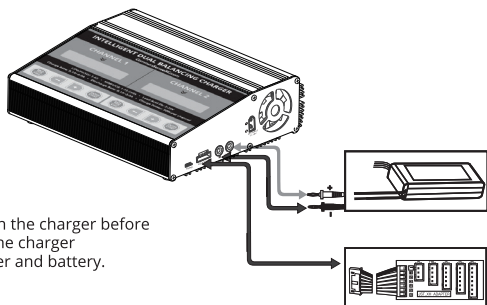
1. Connect charger to power source
2. Connect balance adapter to charger
3. Connect battery to balance adapter
4. Connect charger and battery with main charging cable
5. Make program selection in the charger for battery charging
6. Start to charge battery

Exterior:



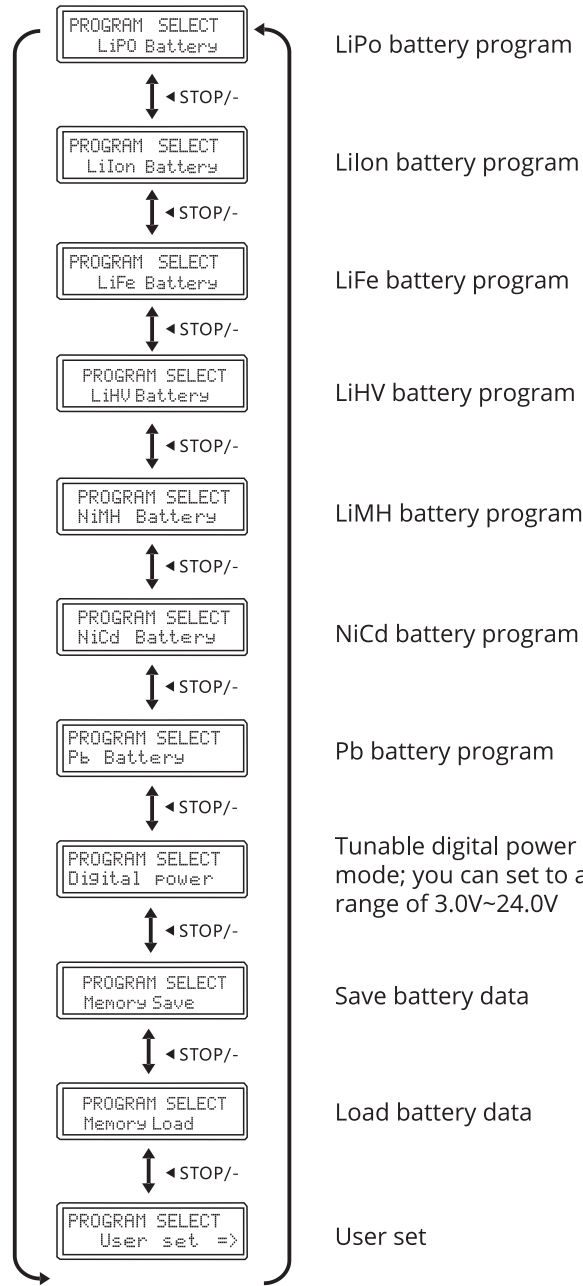
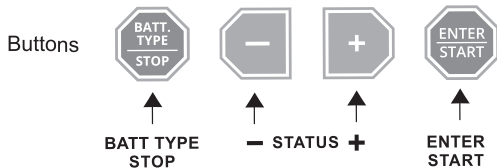
1. AC Input
2. CH1 Main Output
3. CH1 Balance Socket
4. CH1 Temp. Sensor Socket
5. Batt Type/Stop
6. Desc.
7. Inc.
8. Start / Enter
9. LCD Screen
10. CH1 Temp. Sensor Socket
11. CH1 Balance Socket
12. CH1 Main Output
13. DC Input
14. Cooling Fan

Connection diagram in the balance charge/storage/discharge mode



CAUTION: Always power on the charger before connecting the battery to the charger or it will damage the charger and battery.

MAIN MENU



LiPo battery program

LiIon battery program

LiFe battery program

LiHV battery program

LiMH battery program

NiCd battery program

Pb battery program

Tunable digital power
mode; you can set to a
range of 3.0V~24.0V

Save battery data

Load battery data

User set

CHARGING

== QUICK START GUIDE ==

- 1) Identify your battery's chemistry. This charger is capable of charging LiPo, LiHV, LiFe, Li-Ion, NiMH, NiCd, or Pb chemistries.
- 2) Locate the programming guide in this manual for your specific battery chemistry.
- 3) Set the charger to the program to match your battery chemistry. **WARNING:** Failure to charge your battery on the correct chemistry setting will result in a major fire hazard.
- 4) Read the programming guide BEFORE connecting your battery to the charger.
- 5) Place your battery in a flame-retardant safety device. **DO NOT** charge any battery without using a flame-retardant safety device. In the event of a battery fire, failure to use a flame-retardant safety device can result in major property damage, severe injury, or death. We recommend using a Lipo Safe charging bag to ensure adequate protection.
- 6) Once you have read the programming guide, connect your battery's discharge leads to the main charging port.

- If your battery has balance leads, you **MUST** connect them to the balance board. This is **NOT** optional. Failure to connect the battery's balance leads to the balance board will void any Lectron Pro battery warranty, and can result in a major fire hazard.

- If your battery has only 1-cell (1S), you only need to connect the battery to main charging port.

- If you have 2S battery with a UMX connector or a 2S transmitter battery with no balance connector, you will need to purchase an adapter to charge these batteries with the ACDC-10A.

- RECOMMENDED ADAPTERS:
- o For 2S UMX Batteries: UMX Paraboard (Part# PRBRD-UMX)
 - o For 2S TX Packs: "Colossus" v2 - 19-in-1 Charging Adapter (Part# COLOSSUS-V2)

7) Follow the programming guide to configure your charger to the correct settings.

8) CHARGE!

== SETTING UP YOUR CHARGER ==

When the charger first powers on, press the "STOP" and "-" buttons to go through the different battery types, and press "Start" on the battery type that matches your battery. On the screen that comes up, enter the parameters for each setting to match the battery's specifications. Press the "+" and "-" buttons to modify the parameters, and "Start" button to move to the next parameter. Press and hold the "Start" button for 2 seconds to start the charge.

== Charging Lithium batteries (LiPo, LiFe Li-Ion, LiHV) ==

From the program select screen, use the STOP or - keys to select Program Select LiPo Battery and then press the START key.



By pressing the + and - keys, you can select the different function modes:

LiPo CHARGE: Normal charge, balancing if the balance connector connected

LiPo BAL-CHG: Balance charge, use of balancing connector mandatory

LiPo STORAGE: Storage charge or discharge (to 50% of capacity)

LiPo DCHG: Discharge the battery



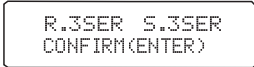
Warning! For increased safety, we recommend that you always connect the battery balancing connector to the charger when charging LiPo or LiFe batteries.

Modifying the settings

Press the START key and the battery voltage (cell count) setting will blink. Use the + and - keys to adjust the cell count (1S to 6S) and press enter to confirm. Do the same for setting the maximum capacity and charge amperage.

Launching the charge or discharge

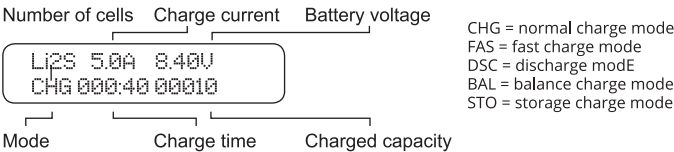
Once you are ready to start the charge or discharge, press and hold the hold the START key. The check screen is displayed.



R: indicates the cell count Read by the charger
S: indicates the cell count Selected by the charger

Warning! If the R and S values are different do not start the charge!

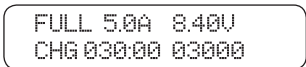
Press the STOP key to go back and check the settings and the battery. If the values are the same, press the START key to begin the procedure. The charge screen will be displayed.



While the charger is charging or discharging the battery, by pressing the START key and using + and - keys you can modify the actual charge and discharge current. Press the START key again to confirm the new rate. You can use the + and - keys to change the information displayed on the screen.

You can use the + and - keys to change the information displayed on the screen.

Once the charger has determined that the charge or discharge is complete, the charger stops and the "FULL" or "END" message is displayed.



Note: You can stop the current process at any time by pressing the STOP key.

CHARGING (CONT'D)

== Charging NiCd/NiMH batteries ==

From the program select screen, use the STOP or - key to select NiCd or NiMH battery and then press the START key.



By pressing the + and - keys, you can select the different function modes:

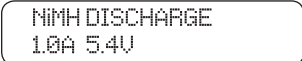
NiMH CHARGE Man: Normal charge
NiMH CHARGE Auto: Normal charge, auto charge current up to the user limit
NiMH DISCHARGE: Discharge the battery
NiMH CYCLE: Cycle the battery

Modifying the settings

To modify the charge settings, press the START key so that the charge current blinks. Use the + and - keys to increase or decrease the charge current.



To modify the discharge settings, press the START key so that the discharge current or discharge end voltage starts to blink. Use the + and - keys to increase or decrease the discharge current or the discharge end voltage (0.1V - 25.0V).

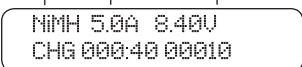


The cycle mode uses the current charge and discharge settings.

Launching the charge or discharge

Once you are ready to start the charge, discharge or cycling, press and hold the START key for three seconds.

Battery type Charge current Battery voltage



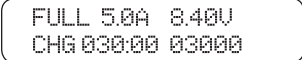
Mode Charge time Charged capacity

CHG = normal charge mode D>C = discharge-charge cycle
DSC = discharge mode C>D = charge-discharge cycle

While the charger is charging or discharging the battery, by pressing the START key and using the + and - keys you can modify the actual charge and discharge current. Then, press the START key again.

You can use the + and - keys to change the information displayed on the screen.

Once the charger has determined that the charge or discharge is complete, the charger stops and the "FULL" or "END" message is displayed.



Note: You can stop the current process at any time by pressing the STOP key.

== Charging Lead Acid (Pb) ==

From the program select screen, use the STOP or - key to select Acid Lead (Pb) battery type and then press the START key.



By pressing the + and - keys, you can select the different function modes:
Pb CHARGE: Normal charge Pb DISCHARGE Discharge the battery

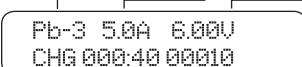
Modifying the settings

If you need to modify the charge or discharge settings, press the START key so that the charge/discharge current or battery voltage (cell count) setting blinks. Use the + and - keys to increase or decrease the charge or discharge current or the cell count (2V to 24V - 1P to 10P)

Launching the charge or discharge

Once you are ready to start the charge or discharge, press and hold the START key for three seconds.

Number of cells Charge current Battery voltage



Mode Charge time Charged capacity

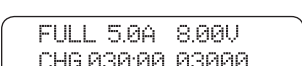
CHG = normal charge mode DSC = discharge mode

While the charger is charging or discharging the battery, by pressing the START key and using + and - keys you can modify the actual charge and discharge current. Press the START key again to confirm the new rate. You can use the + and - keys to change the information displayed on the screen.

Then press the START key again.

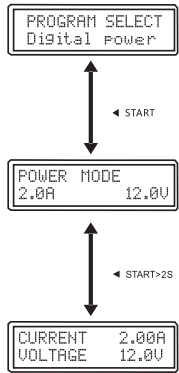
You can use the + and - keys to change the information displayed on the screen.

Once the charger has determined that the charge or discharge is complete, the charger stops and the "FULL" or "END" message is displayed.



Note: You can stop the current process at any time by pressing the STOP key.

DIGITAL POWER PROGRAM



In this mode, charger can provide an output power of DC 3.0V-24.0V for the other electronic equipment.

MEMORY FUNCTION

Charge settings memory

The charger is equipped with a memory that can store settings for ten different batteries. To modify the memorized settings, use the STOP or – keys to select the save data screen and then press the START key.



Use the – or + to select the memory slot you wish to modify, then press START. Use the START key to select the different settings and the – or + keys to modify them.



Once you have made all the changes, press and hold the START key for three seconds to save the changes to the actual memory slot.

Loading the stored settings

To load the memorized setting, use the STOP or – keys to select the load data screen and then press the START key.

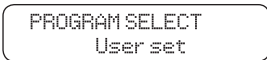


Use the – or + keys to select the memory slot you wish to load, then press and hold START for three seconds. After three seconds the charge screen is displayed automatically.

USER SETTINGS (CONT'D)

Modifying the charger's default settings

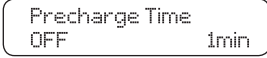
The charger's default settings can be modified. Only modify these settings if you understand their purpose. Incorrectly adjusting these settings can result in damage to batteries or charger and personal injury. To modify the settings, use the STOP or – keys to select the program screen user set and then press the START key.



From here on you have to use the – and + keys and the START key to select and modify the settings.

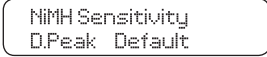
Precharge Time

When charging over-discharged batteries, the charger makes a slow charge before starting the fast charge. This setting adjusts the duration of the slow charge. Slow charging over-discharged batteries is recommended to avoid further damage to the batteries.



NiMH/NiCd delta-peak sensitivity

This setting adjusts the automatic delta-peak charge cut-off sensitivity. Use a higher value if the charge tends to stop prematurely and a lower value if your battery is too hot at the end of the charge. Default value is 7mV/cell for NiMH and 12mV/cell for NiCd.



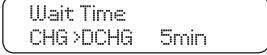
Temperature monitoring

The connector on the left panel can be used to connect an optional temperature probe for battery temperature monitoring. You can adjust the battery charge cut-off temperature.



Cycle delay

To prevent battery overheating during cycling, the charger can make a pause between the charge/discharge cycles



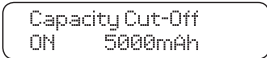
Safety timer

This function adds an extra layer of security during the charge. The charge will be interrupted once the set time is reached, whether the battery is fully charged or not.



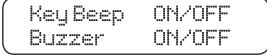
Capacity cut-off

This is another safety feature that checks the amount of energy (in mAh) that is supplied to the battery during charge. The charge will be interrupted once the preset value is reached, whether the battery is fully charged or not.



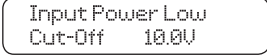
Audio signals

You can enable and disable the audio signals, which are emitted by the charger.



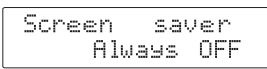
Power supply control

This function will stop any charging procedure if the power supply voltage drops below a certain threshold.



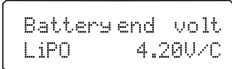
Screen Saver

Auto-dims the screen after idling for specified time.



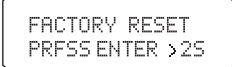
Set the maximum charge voltage for each cell

Input the desired value for each chemistry type and the charger will automatically stop once it has reached the input value.



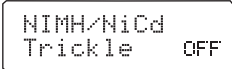
Restore factory settings

Press and hold the enter button for 3-5 seconds to initiate factory reset.



NiMH/NiCd Trickle

The trickle function is for full power maintenance on battery packs after they have been fully charged.



ERROR MESSAGES

This charger is protected against faults and operation errors by the Multi-Protection-System. Faults/Errors are displayed on the LCD screen and they interrupt the active process to protect the unit and the battery.



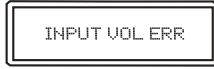
The output is connected to a battery with incorrect polarity



This will be displayed in case of detecting an interruption of the connection between battery and output or voluntarily disconnecting the charge lead during the operation of charge or discharge on output



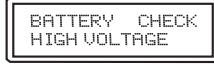
There was a short-circuit at output. Please check the charging leads



The voltage of input power is below the limit



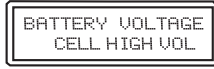
The processor detects the voltage is lower than you set at Lithium program. Please check the cell count of the battery pack



The processor detects the voltage is higher than you set at Lithium program. Please check the cell count of the battery pack



The voltage of one of the cells in the Lithium battery pack is too low. Please check the voltage of the cells one by one



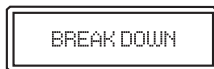
The voltage of one of the cells in the Lithium battery pack is too high. Please check the voltage of the cells one by one



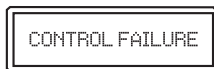
There is a bad connection at the balance connector. Please check connector and cables carefully



The internal temperature of the charger is too high. Wait for the charger to cool down



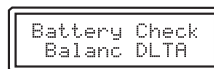
This indicates charger failure. Stop using the charger and contact Common Sense RC



This indicates charger failure. Stop using the charger and contact Common Sense RC



There is a bad connection at the balance or main connector. Please check connectors and cables carefully



The voltage difference between cells is greater than the threshold. A cell in the battery pack may be defective

WARNINGS AND SAFETY NOTES



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.

AGE RECOMMENDATION: *Not for children under 14 years of age. This is not a toy.*

- » Never leave power supply, charger, or battery unattended during use.
- » Never charge batteries overnight.
- » Never attempt to charge dead, damaged, or wet battery packs.
- » Never attempt to charge a battery pack containing cells of different chemistries.
- » Never charge batteries in extremely hot or cold places or in direct sunlight.
- » Never charge a battery of the leads have been pinched or shorted.
- » Never connect the charger if the power cable has been pinched or shorted.
- » Never connect the charger to an automobile battery while the vehicle is running.
- » Never attempt to dismantle the charger or use a damaged charger.
- » Never attach you charger to both an AC and DC power source at the same time.
- » Never connect the input jack (DC input) to AC power.
- » Always charge batteries on a non-flammable surface and inside a fire-resistant container.
- » Always use only rechargeable batteries designed for use with this type of charger.
- » Always inspect the battery before charging.
- » Always keep the battery away from any material that could be affected by heat.
- » Always monitor the charging area and have fire extinguisher available at all times.
- » Always end the charging process if the battery becomes too hot to the touch or begins to swell.
- » Always connect the charge cable to the charger first, then connect the battery next to avoid creating a short circuit between the charge leads. Reverse this sequence when disconnecting.
- » Always connect the positive read leads (+) and negative black leads (–) correctly.
- » Always disconnect the battery after charging and let the charger cool between charges.
- » Always charge in a well-ventilated area.
- » If product malfunctions, discontinue usage and contact Common Sense RC toll-free at 866-405-8811.



Always ensure the battery you are charging meets the specifications of this charger and the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury or property damage. Please contact Common Sense RC or an authorized retailer with compatibility questions.

WARRANTY

Below is considered improper use:

- » Failure to follow instructions
- » Improper use of the product (abusive use, out of spec. etc.)
- » Failure to adapt settings for proper function (improper connections, installation, setup, etc.)
- » Overload, overheating (desoldering, melting, etc.)
- » Running in inadequate conditions (damage or rust from rain, humidity, etc.)
- » Improper maintenance (presence of dirt, etc.)
- » Disassembly, modification by the user (modifying original connectors, wires, components, etc.)
- » Mechanical damage due to external causes.

COMPLIANCE INFORMATION FOR THE EUROPEAN UNION

Declaration of Conformity



Product(s): Battery balance charger
Item Number(s): ACDC-DUO

The object of the declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European EMC Directive 2004/108/EC

EN 55014-1:2006
EN55014-2:1997+A1:2001
EN61000-3-2:2006
EN61000-3-3:2008

