ACDC-80
Instruction Manual
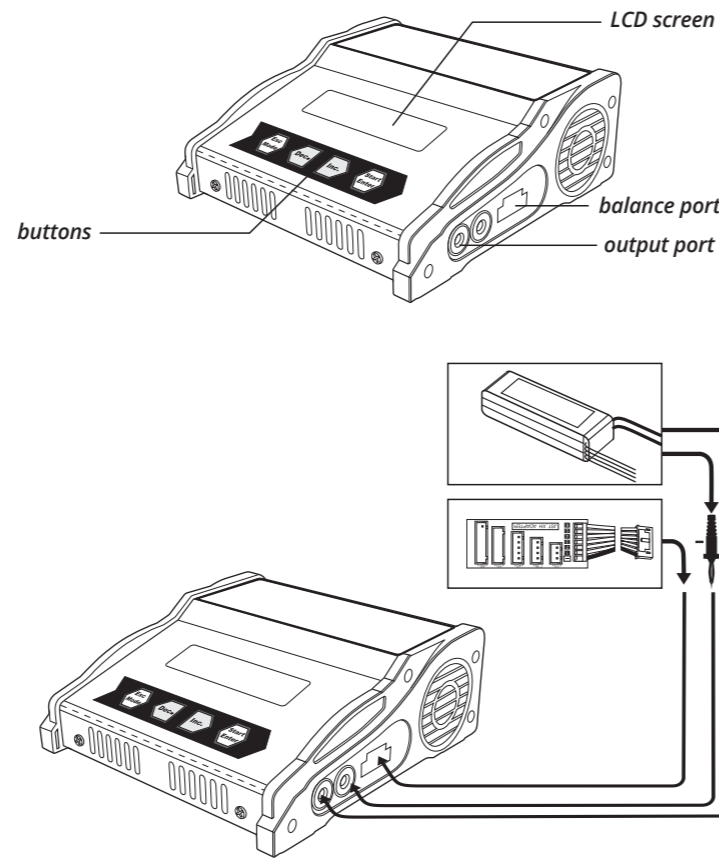
1. Specifcations

AC Input Voltage	110-240V
DC Input Voltage	11-18V
Charge Power	80W
Discharge Power	10W
Charge Rate	8A
Discharge Rate	2A
Balance Current	400mAh/cell
Balance Tolerance	±0.01V
# of LiXX Cells	1S-6S
# of NiCd/NiMH Cells	1-15 cells
Pb Battery Voltage	2-24V
Dimensions	5.7" L x 5.7" W x 2.2" H
Weight	19.4 oz

2. Button Functions

» **Stop/Exit** - Mode selection/stop/back button. Press this key get to the main menu and to stop charging or discharging process.

» **Dec/Inc** - Decrease and increase buttons. You can reduce and increase values and browse other information by using these buttons during charge or discharge process.

» **Enter/Start** - Select and enter button. Press and hold for 2 seconds to finalize your selection.

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4. Exterior Diagram

- LCD screen
- balance port
- buttons
- output port

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3. 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 chage batteries in extremely hot or cold 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 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 your charger to both an AC and DC power source at the same time.
» Never connect the input jack (DC input) to AC power.
» Alway use only rechargeable batteries designed for use with this type of charger.
» Always inspect the battery before charging.
» Alway keep the battery away from any material that could be affect by heat.
» Always monitor the charging area and have a 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.

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5. Programming Guide

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6. Charging

This charger has default settings which are compatible with most popular batteries. If you wish to change the default settings, please go to page 10 of these instructions.

6.1 Lithium batteries (LiPo, LiFe and Li-Ion)

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

```
PROGRAM SELECT        LiPo CHARGE      3S
LiPo Battery          C= 2500mAh    6.0A
```

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

LiPo CHARGE: Normal charge, balancing if balance connector connected (not mandatory but recommended)

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

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

LiPo DCHG: Discharge of the battery

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

Modifying the settings

Press the START key and the battery voltage (cell count) settting 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 START key.

The check screen is displayed.

```
PROGRAM SELECT        LiPo CHARGE      3S
LiPo Battery          C= 2500mAh    6.0A
```

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.


Number of cells   Charge current   Battery voltage

```
Li2S 5.0A 8.40V
CHG 000:40 00010
```

Mode   Charge time   Charged capacity

CHG = normal charge mode   BAL = balance charge mode
FAS = fast charge mode   STO = storage charge mode
DSC = discharge mode

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. Press the START key again to confirm the new rate. You can use the + and - keys to change the information displayed on the screen. Please refer to p.12 for information about the various screens available.

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

```
FULL 5.0A 8.40V
CHG 030:00 03000
```

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

6.2 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.

```
PROGRAM SELECT        NiMH CHARGE Man
NiMH BATT             CURRENT    5.0A
```

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

NiMH CHARGE : Man Normal charge
NiMH CHARGE: Aut 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.

```
NiMH CHARGE Man
CURRENT    5.0A
```
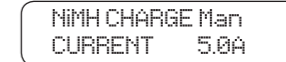
To modify the discharge settings, press the START key so that the discharge current or discharge end voltage starts to blink. Use the + and - keys to increase or decrease the discharge current or the discharge end voltage (0.1V – 25.0V).
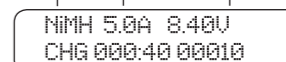
```
NiMH DISCHARGE
1.0A 5.4V
```
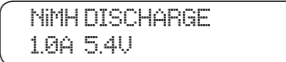
The cycle mode uses the current charge and discharge settings.

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

```
NiMH 5.0A 8.40V
CHG 000:40 00010
```
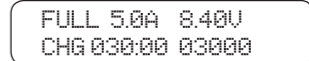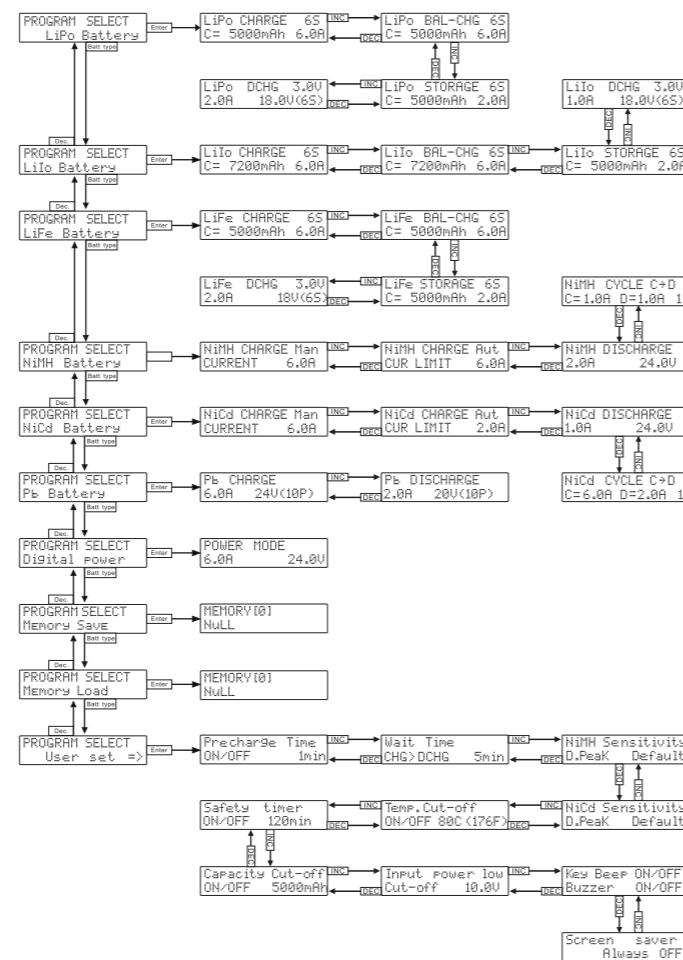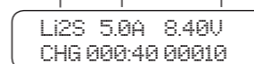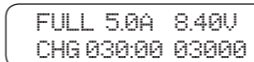
Mode   Charge time   Charged capacity

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. Please refer to p.06 for information about the various screens available.

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

```
FULL 5.0A 8.40V
CHG 030:00 03000
```

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

6.3 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.

```
PROGRAM SELECT        Pb CHARGE
Pb BATT               5.0A  6.0V(3p)
```

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

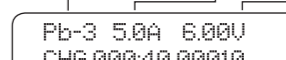Pb CHARGE   Normal charge   Pb DISCHARGE   Discharge the battery

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 (2Vto 20V – 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

```
Pb-3 5.0A 6.00V
CHG 000:40 00010
```
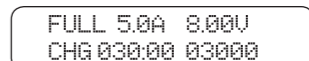
Mode   Charge time   Charged capacity

CHG = normal charge mode   DSC = discharge mode

While the charger is charging or discharging the battery, by pressing the START key and using the + and - keys you can modify the actual charge and discharge current. Then, press the START key again.
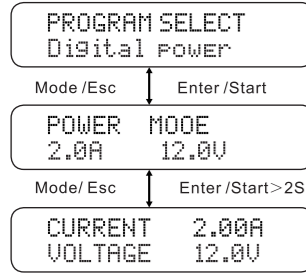
You can use the + and - keys to change the information displayed on the screen. Please refer to p.12 for information about the various screens available.

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

```
FULL 5.0A 8.00V
CHG 030:00 03000
```

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

6.4 Digital Power

```
PROGRAM SELECT
Digital POWER
```

Mode /Esc   Enter /Start

```
POWER   MOOE
2.0A      12.0V
```

Mode/ Esc   Enter /Start>2S

```
CURRENT    2.00A
VOLTAGE    12.0V
```

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

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

```
Precharge Time
OFF              1min
```

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.

```
NiMH Sensitivity
D.Peak   Default
```

```
NiCd Sensitivity
D.Peak   Default
```

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.

```
Temp Cut-Off
ON          80C(176F)
```
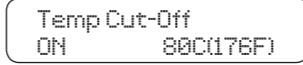
Cycle delay
To prevent battery overheating during cycling, the charger can make a pause between the charge/discharge cycles.

```
Wait Time
CHG >DCHG    5min
```
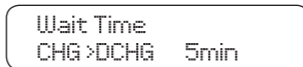
Safety timer
This function adds an extra layer of security during the charge. The charge will be interrupted once the set time is reached, whether the battery is fully charged or not.

```
Safety Timer
ON          120min
```
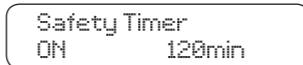
Capacity cut-off
This is another safety feature that checks the amount of energy (in mAh) that is supplied to the battery during charge. The charge will be interrupted once the preset value is reached, whether the battery is fully charged or not.

```
Capacity Cut-Off
ON      5000mAh
```

8. Error Messages

The charger can display error messages when certain types of problems are detected. In any case when an error occurs, check the connections, power supply, battery and settings.

This indicates that there is a polarity reversal. Check the battery and connections.

```
REVERSE POLARITY
```

This indicates that the connection between the charger and battery was interrupted while the battery was charging or discharging. Check the battery and connections.

```
CONNECTION BREAK
```
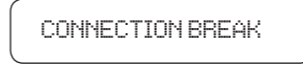
This indicates that there is an electrical short-circuit on the charger output. Check the battery and connections.

```
SHORT ERR
```
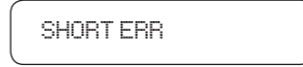
This indicates that there is a problem with the power supply. Check the power supply.

```
INPUT VOL ERR
```

This indicates a charger failure. Stop using the charger and contact Common Sense RC or an authorized retailer.

```
BREAK DOWN
```

This indicates that the battery voltage is too low. Check the battery and settings.

```
BATTERY CHECK
LOW VOLTAGE
```

This indicates that the battery voltage is too high. Check the battery and settings.

```
BATTERY CHECK
HIGH VOLTAGE
```

This indicates that one or more cells of the battery have a too low voltage. Check battery and connections.
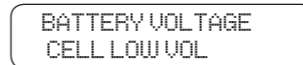
```
BATTERY VOLTAGE
CELL LOW VOL
```
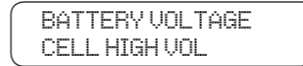
9. Warranty

Below is considered incorrect 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,wrong gearing, 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

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Product(s):   Battery balance charger
Item Number(s):   ACDC-80

The object of 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

7. Extra information display

While the charger is charging or discharging a battery, you can use the - and + keys to display extra information.

```
NiMH Sensitivity
D.Peak   Default
```
Indicates delta-peak sensitivity for NiMH

```
NiCd Sensitivity
D.Peak   Default
```
Indicates delta-peak sensitivity for NiCd

```
End Voltage
8.4(2S)
```
Indicates Lithium battery end voltage

```
4.10 4.10 0.00
0.00 0.00 0.00
```
Individual cell voltage display for lithium batteries (only if balancing connector is used)

```
Capacity Cut-Off
ON      5000mAh
```
Indicates capacity safety feature setting

```
Safety Timer
ON      120min
```
Indicates timer safety feature setting

```
Ext. Temp   40C
```
Indicates the temperature measured by the probe

```
IN Power Voltage
16.49V
```
Indicates actual power supply voltage
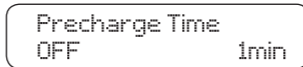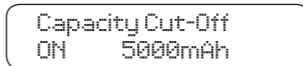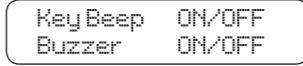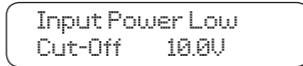
Modifying the charger's default settings
The charger's default setting can be modified. Only modify these setting if you understand their purpose. Incorrectly adjusting these settings can result in damage to batteries or charger and personal injury. To modify the settings, use the STOP or - keys to select the program screen and then press the START key.

```
PROGRAM SELECT
        User set.>
```

```
Precharge Time
OFF              1min
```

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

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

```
Key Beep     ON/OFF
Buzzer       ON/OFF
```

Power supply control
This function will stop any charging procedure if the power supply voltage drops below a certain threshold.
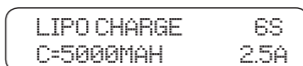
```
Input Power Low
Cut-Off      10.0V
```

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.
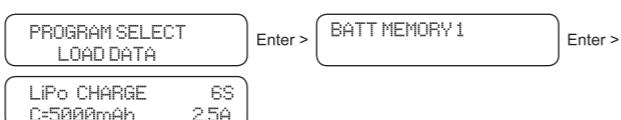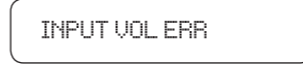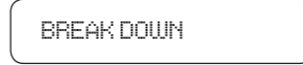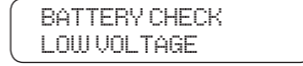
```
PROGRAM SELECT
SAVE DATA
```
Enter >
```
BATT MEMORY 1
USER SET
```
Enter >

```
BATT TYPE
LIPO
```

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

```
LIPO CHARGE        6S
C=5000MAH        2.5A
```

Once you have made the changes, press and hold the START key for three seconds. The screen will now display the various charge and discharge settings for the selected battery type. Please refer to the previous setup instructions for more information.

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 memorized settings, use the STOP or - keys to select the load data screen and then press the START key.

```
PROGRAM SELECT
    LOAD DATA
```
Enter >
```
BATT MEMORY 1
```
Enter >

```
LiPo CHARGE        6S
C=5000mAh        2.5A
```

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.

This indicates that one or more cells of the battery have a too high voltage. Check battery and connections.

```
BATTERY VOLTAGE
CELL HIGH VOL
```

This indicates a problem with the balancing connector. Check the battery and connections.

```
BATTERY VOL ERR
CELL CONNECT
```

This indicates that the charger is overheating. Let the charger cool down or improve the cooling.

```
TEMP OVER ERR
```

This indicates a charger failure. Stop using the charger and contact Common Sense RC or an authorized retailer.

```
CONTROL FAILURE
```
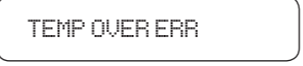
Instructions for disposal of WEEE by users in the European Union

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.