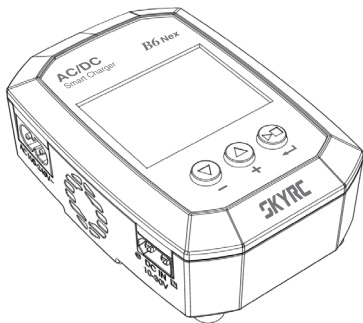


# *B6 Nex*

Professional Balance Charger / Discharger

## Instruction Manual



**SKYRC**

v1.0

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Congratulations on your choice of SkyRC B6 Nex!

B6 Nex comes with both AC and DC power input, which can meet you on power supply in different circumstances.

Multiple protections are implemented to maximize safety, such as reverse polarity protection, charging time limit, overcharge capacity limit.

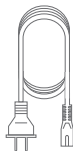
The operation of a multi-chemistry battery charger does require specific knowledge on the part of the user. **BE SURE** to read these **INSTRUCTIONS**, **WARNING**, and **SAFETY NOTES** before you use the charger. Danger can occur, including fire or explosion, due to misoperations.

We hope you have years of pleasure and success with the new battery Charger.

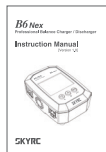
### WHAT IS IN THE BOX :



B6 Nex Charger

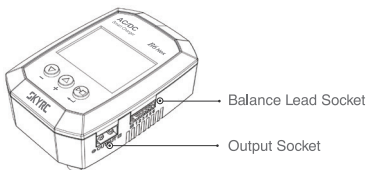
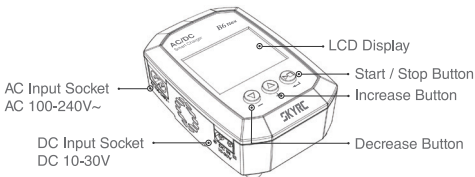


AC Power Cord



Instruction Manual

Please read this entire operations manual thoroughly and attentively before using this product, as it covers a wide range of information on operation and safety. Or please do use this product in company with a specialist!



### **App Control (iOS and Android)**

The free SkyCharger app unleashes tons of features and advanced settings, which tremendously enhance the experience of B6 Nex.

### **Internal Independent Lithium Battery Balancer**

With the balance lead connected, B6 Nex will balance your lithium batteries while charging or discharging.

### **Adaptable to Various Types of Batteries**

B6 Nex is adaptable to various types of batteries, such as LiPo, NiMH, Pb, and LiHV batteries.

### **Fast and Storage Mode for Lithium Battery**

With highly optimized software, the preset modes can meet various charging purposes: FAST charge reduces the charging time, whereas STORAGE controls the battery's terminal voltage to the best state to maximize its lifespan.

### **Cycle Charge/ Discharge**

1 to 5 cycles of continuous process of charge>discharge or discharge>charge is to refresh and balance the battery for an extended lifespan.

### **Capacity Limit\***

The charging capacity is calculated as the charging current multiplied by time. If the calculated capacity exceeds the limit, the process will be terminated automatically when the maximum value is set.

### **Processing Time Limit\***

You can limit the maximum process time to avoid any potential defect.

### **Terminal Voltage Control (TVC)\***

Experienced users or experts can set Charge or Discharge Terminal Voltage according to their needs.

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\*This feature is available in the SkyCharger app only.

These warnings and safety notes are vitally important. Please follow the instructions for maximum safety; otherwise, the charger and the battery can be damaged, or at worst, it can cause a fire.

- ❗ Never leave the charger unattended when it is connected to its power supply. If any malfunction is found, **TERMINATE THE PROCESS AT ONCE** and refer to the operations manual.
- ❗ Keep the charger well away from dust, dampness, rain, heat, direct sunlight, and vibration. Never drop it.
- ❗ The allowable DC input voltage is 10~30V. AC input voltage is 100-240V.
- ❗ This charger and the battery should be put on a heat-resistant, nonflammable, and nonconductive surface. Never place them on a car seat, carpet, or similar. Keep all the inflammable or volatile materials away from the operating area.
- ❗ Make sure you know the specifications of the battery to be charged or discharged to ensure it meets the requirements of this charger. If the program is set up incorrectly, the battery and charger may be damaged. It can cause fire or explosion due to overcharging.



## STANDARD BATTERY PARAMETERS

	Nominal Voltage	Max Charge Voltage	Storage Voltage	Allowable Fast Charge	Min. Discharge Voltage
<b>LiPo</b>	3.7V/cell	4.2V/cell	3.8V/cell	≤1C	3.0-3.3 V/cell
<b>Lilon</b>	3.6V/cell	4.1V/cell	3.7V/cell	≤1C	2.9-3.2 V/cell
<b>LiFe</b>	3.3V/cell	3.6V/cell	3.3V/cell	≤4C	2.6-2.9 V/cell
<b>LiHV</b>	3.7V/cell	4.35V/cell	3.90V/cell	≤1C	3.1-3.4 V/cell
<b>NiCd</b>	1.2V/cell	1.5V/cell	n/a	1C-2C	0.1-1.1 V/cell
<b>MiMH</b>	1.2V/cell	1.5V/cell	n/a	1C-2C	0.1-1.1 V/cell
<b>PB</b>	2.0V/cell	2.4V/cell	n/a	≤0.4C	1.8V/cell



Be very careful to choose the correct voltage for different battery types; otherwise, you may cause damage to the batteries. Incorrect settings could cause the cells to catch fire or explode.

### **NEVER ATTEMPT TO CHARGE OR DISCHARGE THE FOLLOWING TYPES OF BATTERIES:**

- A battery pack which consists of different types of cells (including different manufacturers);
- A battery that is already fully charged or just slightly discharged;
- Non-rechargeable batteries (Explosion hazard);
- Batteries that require a different charge technique;
- A faulty or damaged battery;
- A battery with a built-in charging circuit or protection circuit;
- Batteries installed inside a device or which are wired to other components;
- Batteries that the battery manufacturer does not expressly state suitable for the charging current this charger can deliver.

### **PLEASE BEAR IN MIND THE FOLLOWING POINTS BEFORE COMMENCING CHARGING:**

- Have you selected the appropriate program suitable for the battery type you are charging?
- Have you set up adequate current for charging or discharging?

- Have you checked the battery voltage? Lithium battery packs can be wired in parallel and series, i.e., a two-cell pack can be 3.7V (in parallel) or 7.4V (in series).
- Have you checked that all connections are firm and secure?
- Make sure there are no intermittent connections at any point.

## CHARGING

During the charging process, a specific quantity of electrical energy is fed into the battery. This quantity is calculated by multiplying charge current by charge time.

The maximum permissible charge current varies depending on the battery type or its performance and can be found in the battery manufacturer's technical specification.

Only batteries expressly stated to be capable of FAST charge can be charged at rates higher than the standard charge current. Connect the battery to the charger's terminal: red is positive and black is negative. Due to the resistance difference between the cable and connector, the charger can not detect resistance of the battery pack. The charger's essential requirement to work properly is that the charge lead should be of adequate conductor cross-section, and high-quality connectors, which are normally gold-plated, should be fitted on both ends.

Always refer to the manual by the battery manufacturer for the charging methods, recommended charging current and charging time. Especially, the lithium battery should be charged according to the charging instructions by the manufacturer strictly.

Do not attempt to disassemble the battery pack arbitrarily.

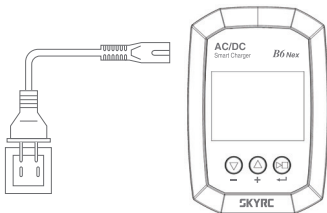
Please get highlighted that lithium battery packs can be wired in parallel and series. In parallel, the battery's capacity is calculated by multiplying a single battery capacity by the number of cells with total voltage stay the same. The voltages imbalance may cause fire or explosion. Lithium battery is recommended to charge in series.

## DISCHARGING

The main purpose of discharging is to clear the battery's residual capacity or reduce the voltage to a defined level. The same attention should be paid to the discharging process as charging. The final discharge voltage should be set correctly to avoid deep-discharging. The lithium battery can not be discharged to lower than the minimum voltage, or it will cause a rapid loss of capacity or a total failure. Generally, a lithium battery doesn't need to be discharged. Please pay attention to the minimum voltage to protect the lithium battery. Some rechargeable batteries have a memory effect. If they are partly used and recharged before the full charge is accomplished, they remember this and will only use that part of their capacity next time. This is called a memory effect. It is said that NiCd and NiMH batteries are suffering from memory effects. NiCd has more memory effect than NiMH.

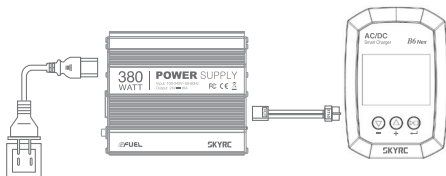
Choose AC or DC power input: the maximum power that B6 Nex can deliver is 50W via AC input(100-240V), whereas the charger can deliver up to 200W through DC input(10-30V).

**1. Connect the charger to a DC power supply or power on the device via an AC outlet.**



AC input

or



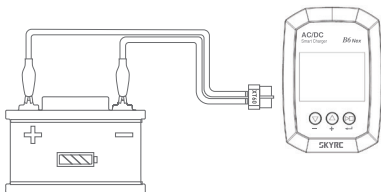
DC input

## Important Notice

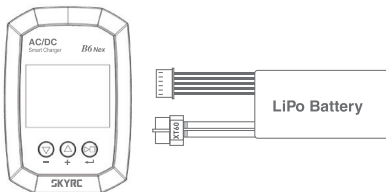
To take advantage of B6 Nex's full power capability, the power source should be 10-30V DC, and output power should be 220W or higher.

A low-quality DC power source may damage your B6 nano charger.

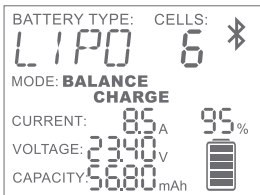
## Connect the charger to Pb battery.



## 2. Insert the battery to the charger



## Display content



BATTERY TYPE:  
L1PO

Battery Type: select the chemistry of the battery.

CELLS:  
6

Cells: set how many cells of the battery pack.

MODE: **BALANCE CHARGE**

Mode: select which process the charger will run.

CURRENT: 85 A

Current: select the current to charge/ discharge.

VOLTAGE: 23.40 V

Voltage: the voltage of the connected battery.

CAPACITY: 5680 mAh

Capacity: calculated electric charge/discharge.

95% 

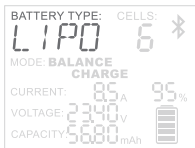
Percentage: the remaining capacity of the battery.






Bluetooth: the charger is connected by the app.

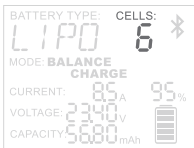





### 3. Battery Type Setting



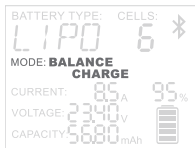
Press  button, the battery type will blink.  
Then Press  or  button  
to select the correct battery type.




### Battery Cells Setting



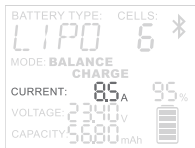
Press  button, the battery cells will blink.  
Then Press  or  button  
to select the correct battery cells.




## 5. Charging Mode Setting



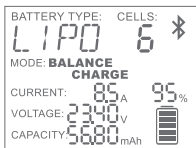
Press  button, the mode will blink.  
 Then Press  or  button  
 to select the the charging mode.

## 6. Charge Current Setting



Press  button, the current will blink.  
 Then Press  or  button  
 to select the charge current.

## 7. Start

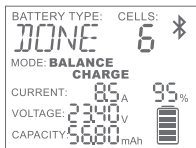


Press and hold  button for 3 seconds to start the program.

## 8. Stop

During the charging process, press  button to stop.

## 9. Complete



When the charging process is finished, a tone will be heard.













## Charging Process Explained

Depends on the different battery types, the operations may vary.

Batt Type	Operation Program	Description
LiPo LiIon LiFe LiHV	CHARGE	Charge LiPo/LiFe/LiIon/LiHV battery in normal mode.
	DISCHARGE	Discharge LiPo/LiFe/LiIon/LiHV battery.
	STORAGE	Charge or Discharge a lithium battery, which will sit for a long time.
	FAST CHG	The charging capacity may be a bit smaller than normal charging but the charging time will be reduced.
	BAL CHARGE	Balance the lithium-polymer battery cells' voltage while charging.
NiMH NiCd	CHARGE	Charge NiMH and NiCd batteries at the charge current set by the user.
	DISCHARGE	Discharge NiMH/NiCd battery.
	CYCLE	1 to 5 cycles of continuous process of charge>discharge or discharge>charge to refresh and balance to extend battery lifetime.
Pb	CHARGE	Charge Pb battery.
	DISCHARGE	Discharge Pb battery.

In case of an error, the screen will display the cause and emit an audible sound.

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	Input voltage less than 10V
	Input voltage higher than 30V.
	No battery connected
	Balance port voltage error
	The battery type is wrong
	The battery's capacity is greater than the maximum capacity set by the user.
	The charging time exceeds the maximum set by the user.
	Temp. is too high.
	Reverse polarity detected
	Battery is fully charged
	Battery is disconnected
	Battery cell is in a big differential pressure at balance port.

With Bluetooth 5.0, users can monitor and control B6 Nex comfortably through the SkyCharger app, available from App Store or Google Play. The operation of the app is self-explanatory.

Thanks to Bluetooth Low Energy (BLE), just install the app and launch to connect. You don't need to pair in the phone's setting like Bluetooth legacy. B6 Nex will establish a Bluetooth connection automatically with the smartphone.

Scan the QR code on the right to download the SkyCharger app.



Scan with  
your Smartphone  
to download.

### OPERATIONS:

1. Connect B6 Nex to a power supply or an AC outlet.

Remark: Once you power on the charger, the display will show the password you set. Password can be changed with the SkyCharger APP.



2. Connect your battery to B6 Nex with the balance lead plugged.

3. Enable Bluetooth on your mobile device and launch the SkyCharger app.

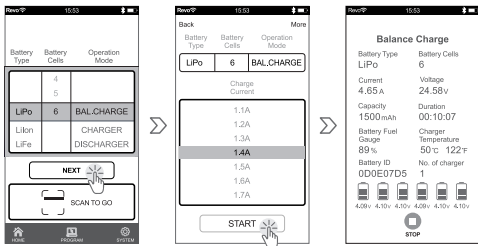
① Start the app to set a password

**DO NOT USE 5793 as password, which is reserved by the system.**



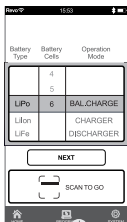
- 2 Steps for Charging (Take 6S LiPo battery for example)

Connect the batteries to the corresponding channels, select battery type, cells. Press NEXT to set the proper charge current.

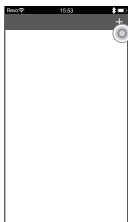




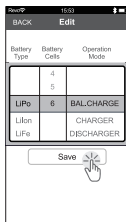
### 3 Memory Program



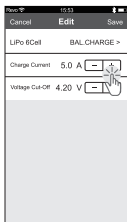
Press "PROGRAM" button



Enter into PROGRAM interface



Set battery type, cells and working modes



Press to save the program after set the charge current and voltage cut-off

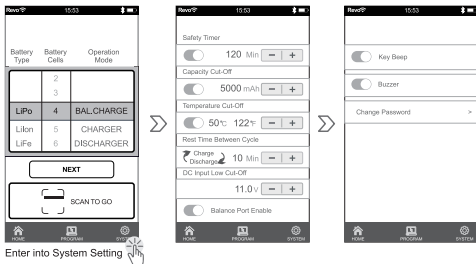


Memory program setting finishes.



Press "START" button to start charge  
Press "EDIT" button to change the setting

## 4 System Setting

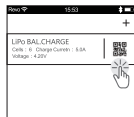


## 5 SCAN TO GO

A unique feature of B6 Nex is SCAN TO GO (automatically charging system). As the range of battery types and capacity becomes more and more, each battery requires its own dedicated charging process. It is easy to set up the charger incorrectly for a specific type of battery, resulting in damage to the battery or even causing an accident. The innovative SCAN TO GO provides a solution to this scenario by allowing users to assign a QR Code that reflects all the relevant data for the battery to be charged or discharged.

Users can create a unique QR Code with the SkyCharger app. Print and paste it on the battery. Since all the essential information is stored in the QR Code. All you need to do is press the Scan button, and the charge or discharge process will start automatically.

## How to print QR code



Press the QR code



Save the QR code to Gallery



Open Gallery



Select the QR code and open it

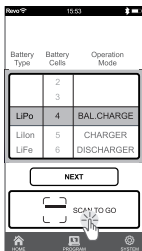


You can print it from your mobile phone or send the QR code image to computer to print it out.

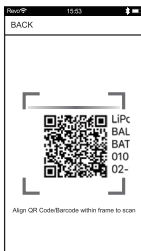


Attach the printed QR code to the battery

## Scan to charge



Press "SCAN TO GO"



Scan to launch the program

- DC Input Voltage : 10-30V
- AC Input Voltage: 100-240V
- Display Type: LCD
- Case Material: Plastic
- Controls: Three Buttons
- Case Size: 112x75x38mm
- Weight: 237.7g
- External Port: 2-6S Balance Socket-XH,  
Battery Socket, DC Input, AC Input
- Delta Peak Detection for NiMH/NiCd:  
3-15mV/cell / Default: 4mV/cell
- Charge Voltage:  
NiMH/NiCd: Delta peak detection  
LiPo: 4.18-4.25V/cell Lilon: 4.08-4.2V/cell  
LiFe: 3.58-3.7V/cell LiHV: 4.25-4.35V/cell
- Balance Current: 1000mA/cell Max
- Reading Voltage Range: 0.1-26.1V/cell

## SPECIFICATION

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- Battery Types/Cells:
  - LiPo/Lilon/LiFe/LiHV: 1-6cells
  - NiMH/NiCd: 1-15cells
  - Pb: 2-20V
- Battery Capacity Range:
  - NiMH/NiCd: 100-50000mAh
  - LiPo/Lilon/LiFe/LiHV: 100-50000mAh
- Charge Current: 0.1A-10A
- Safety Timer: 1-720minutes off
- Charge Wattage: 50W, AC input/ 200W, DC input
- Discharge Current: 0.1A-2.0A
- Discharge Cut-off Voltage:
  - NiMH/NiCd: 0.1-1.1V/cell
  - LiPo: 3.0-3.3V/cell Lilon: 2.9-3.2V/cell
  - LiFe: 2.6-2.9V/cell LiHV: 3.1-3.4V/cell
  - Pb: 1.8V
- Discharge Wattage: 10W
- Balance Cells: 2-6 cells
- Charge Method:
  - CC/CV for lithium types and lead (Pb) batteries

**Final charge voltage:**

the voltage at which the battery's charge limit (capacity limit) is reached. The charge process switches from a high current to a low maintenance rate (trickle charge) at this point. From this point on further high current charging would cause overheating and eventual terminal damage to the pack.

**Final discharge voltage:**

the voltage at which the battery's discharge limit is reached. The chemical composition of the batteries determines the level of this voltage. Below this voltage, the battery enters the deep discharge zone. Individual cells within the pack may become reverse polarized in this condition, and this can cause permanent damage.

**A, mA:**

unit of measurement relating to charge or discharge current.  $1000 \text{ mA} = 1 \text{ A}$  (A=Ampere, mA=Milliampere)

**Ah, mAh:**

unit of measurement for the capacity of a battery (Amperes x time unit; h= hour). If a pack is charged for one hour at a current of 2 A, it has been fed 2 Ah of energy. It receives the same quantity of charge (2 Ah) if it is charged for 4 hours at 0.5 A or 15 minutes (=1/4 h) at 8 A.

**'C'-rating:**

Capacity is also referred to as the 'C' rating.

Some battery suppliers recommend charge and discharge currents based on the battery 'C' rating. A battery's '1C' current is the same number as the battery's rated capacity number but noted in mA or amps. A 600mAh battery has a 1C current value of 600mA, and a 3C current value of (3 x 600mA) 1800mA or 1.8A. The 1C current value for a 3200mAh battery would be 3200mA (3.2A).

### **Nominal voltage(V):**

The nominal voltage of the battery pack can be determined as follows;

- NiCd or NiMH: multiply the total number of cells in the pack by 1.2. A 8-cell pack will have a nominal voltage of 9.6 volts (8x1.2).
  - .LiPo: multiply the total number of cells in the pack by 3.7. A 3-cell LiPo wired in series will have a nominal voltage of 11.1 volts (3x3.7).
  - .Lilo: multiply the total number of cells in the pack by 3.6. A 2-cell Lilo wired in series will have a nominal voltage of 7.2 volts (2x3.6).
  - .LiFe: multiply the total number of cells in the pack by 3.3. A 4-cell Lilo wired in series will have a nominal voltage of 13.2 volts (4x3.3).
- If the nominal voltage of the battery is not printed on the battery's label, consult your battery manufacturer or supplier. Do not guess the rated voltage of battery.



**Liability exclusion**

This charger is designed and approved exclusively for use with the types of the battery stated in this Instruction Manual. SkyRC 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 SkyRC products that were immediately and directly involved in the event in which the damage occurred.

**Warranty and service**

We guarantee this product to be free of manufacturing and assembly defects for one year from the time of purchase. The warranty only applies to material or operational defects, which are present at the time of purchase. During that period, we will repair or replace free of service charge for products deemed defective due to those causes. This warranty is not valid for any damage or subsequent damage arising as a result of misuse, modification, or as a result of failure to observe the procedures outlined in this manual.

**Note**

The warranty service is valid in China only.

If you need warranty service overseas, please contact your dealer in the first instance, who is responsible for processing guarantee claims overseas. Due to high shipping cost, complicated custom clearance procedures to send back to China. Please understand SkyRC can't provide warranty service to overseas end users directly. If you have any questions which are not mentioned in the manual, please feel free to send email to [info@skyrc.cn](mailto:info@skyrc.cn)

# SKYRC

Manufactured by  
**SKYRC TECHNOLOGY CO., LTD.**  
[www.skyrc.com](http://www.skyrc.com)



Made in China  
**FCC ID: 2ANDL-BT3L**

All specifications and figures are subject to change without notice.  
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7504-1485-01