Thank you for purchasing the balance charger. This is a rapid charger/discharger with built in balancer, computerised with microprocessor and specialised operating software. Please read this entire operating manual completely and attentively before using.
1. SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage range</td>
<td>100-240VAC</td>
</tr>
<tr>
<td></td>
<td>10.0 – 18.0VDC</td>
</tr>
<tr>
<td>Charge current range</td>
<td>0.1 – 7.0A</td>
</tr>
<tr>
<td>Discharge current range</td>
<td>0.1 – 1.5A</td>
</tr>
<tr>
<td>Maximum charge power</td>
<td>80W</td>
</tr>
<tr>
<td>Maximum discharge power</td>
<td>5W</td>
</tr>
<tr>
<td>Current drain for balancing</td>
<td>300mA</td>
</tr>
<tr>
<td>Balance accuracy</td>
<td>10mV</td>
</tr>
<tr>
<td>Lithium (LiPo/Lilo/LiFe) battery cell count</td>
<td>1 – 6 series</td>
</tr>
<tr>
<td>NiCd/NiMH battery cell count</td>
<td>1 – 17 series</td>
</tr>
<tr>
<td>Pb battery cell count</td>
<td>1 – 12 series</td>
</tr>
<tr>
<td>Battery setup memories</td>
<td>10</td>
</tr>
<tr>
<td>Intelligent temperature control</td>
<td>Yes</td>
</tr>
<tr>
<td>Display mode</td>
<td>128*64dots graphics LCD</td>
</tr>
<tr>
<td>Measure internal DC resistance</td>
<td>1–9999mΩ</td>
</tr>
<tr>
<td>Net weight</td>
<td>550g</td>
</tr>
<tr>
<td>Dimensions (L X W X D)</td>
<td>155x135x65mm</td>
</tr>
</tbody>
</table>

2. SPECIAL FEATURES

Charger new features are as follows:

- The cut-off voltage is adjustable when charge/discharge.
- Microprocessor controlled.
- Quick charger, Discharger, Capacity tester.
- Battery conditioner for sealed Ni-Cd-, Ni-MH-, Lead- (Lead-Acid, Lead-Gel) and Lithium-Batteries (Li-FePO4, Li-Ion, Li-Po)
- Graphical display of voltage and current during process.
- Balance individual cells for Lithium Baterry.
- Cyclic charge / discharge.
- Measure internal DC resistance of battery.
- Integrated electronic discharge load.
- Internal fan, temperature controlled.
**Optimised operating software**

When charging or discharging, it has an 'AUTO' function that sets the feeding current automatically. Especially for Lithium batteries, it can prevent the over-charging that can lead to an explosion by users fault. Every program in the unit is controlled with mutual links and communication for every possible error so it introduces a maximum safety. These can be set at users option.

Special recharge plug sport for receiver, transmitter and igniter charger. And for frequently used charger port such as multi purpose crocodile pin etc.

It provides most convenient balance charge port for Lithium batteries, with separated 2,3,4,5,6 charge port, and external reverse connector.

**High-power and high-performance circuit**

It employs the circuit that has maximum output power of 80W. As a result it can charge or discharge up to 17 cells of NiCd/NiMH and 6 series of Lithium batteries with maximum current of 7.0A. Furthermore the cooling system is so efficient that can hold such a power without any trouble of running the CPU or the operating program.

**Individual voltage balancer for Lithium batteries inside**

It has an individual-cell-voltage balancer inside. This does not require any extra balancer separately when charging Lithium batteries (Lilo/LiPO/LiFe) for cell voltage balancing.

**Balance individual cells on discharge**

It also can monitor and balance individual cells of the Lithium battery pack during the discharge process. If the voltage of any one cell varies abnormally, the process will be stopped with the error message.

**Accept various types of Lithium battery**

It can accept three types of Lithium batteries- Lilo, LiPo and LiFe. They have different characteristics by their chemistry. You can select any one of them that you are going to process before the job. For their specifications, refer 'Warnings and safety notes' section.

**Lithium Battery charging mode**

You can charge Lithium battery for special purposes and select from three charging mode, "normal charging", "fast charging", "slow charging".

**Maximum safety**

 Delta-peak sensitivity: The automatic charge termination program works on the principle of the Delta-peak voltage detection (NiCd/NiMH)

 Auto-charge current limit: When charging NiCd or NiMH at 'AUTO' current mode, you can set the upper limit of change current to avoid from high current charging. This is very useful when charging the low impedance and small capacity NiMH battery in 'AUTO' mode.

 Capacity limit: The changing capacity always calculated by multiple of the charging
current and time. If the charging capacity exceeds the limit the process will be terminated automatically when you set the maximum value.

Temperature limit: The temperature of the battery on charging will rise by its internal chemical reaction. If you set the limit of temperature the process will be expired forcibly when the limit has reached.

Processing time limit: you can also restrain the maximum process time to prevent from any possible defect.

Input power monitor: To protect the car battery using as input power from being damaged the voltage of it always monitored. If it drops below the lower limit the process will be ended automatically.

Automatic cooling fan: The electric cooling fan comes into action automatically only when the internal temperature of the unit is raised.

Data store/load
For users convenience it can store maximum 10 data of different batteries. You can establish the data contains program setting of the battery to charge or discharge continually. These data can be called out at any time you need and the process can be executed without program setting.

Cyclic charging/discharging
Perform 1 to 10 cycles of charge>discharge or discharge>charge continually for battery refreshing and balancing.
3. Warnings and safety notes

- Never leave the charge unsupervised when it is connected to its power supply. If any malfunction is observed immediately terminate the process and refer to the operation manual.
- Keep away the unit from dust, damp, rain, heat direct sunshine and vibration. Do not drop it.
- The circuit of the unit is designed to be powered by a 10-18V DC only.
- This unit and the battery to charge or discharge should be set up on a head-resistant, non-inflammable and non-conductive surface. Never place them on a car seat, carpet or similar. Keep all the inflammable volatile materials well away from operating area.
- Be sure to understand the information of the battery to be charged or discharged accurately. If the program is set up incorrectly the battery can severely be damaged. Especially Lithium battery can cause a fire or an explosion by over-charging.
- To avoid short-circuits between the charge lead, always connect the charge cable to the unit first and only then to the battery to be charged or discharged. Reverse the sequence when disconnecting.
- Do not attempt to disassemble the battery pack arbitrarily. You have to pay attention to verify the capacity and the voltage of the Lithium battery pack. It may be composed of parallel and series connection mixed. In parallel link the capacity of the battery pack

<table>
<thead>
<tr>
<th>Battery Type</th>
<th>Voltage Level</th>
<th>Max. Charge Voltage</th>
<th>Allowable Fast Charge Current</th>
<th>Min. Discharge Voltage Cut Off Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>NiCd/NiMH</td>
<td>1.2V/cell</td>
<td>4.1V/cell</td>
<td>1C~2C</td>
<td>2.5V/cell or higher</td>
</tr>
<tr>
<td>Lilo</td>
<td>3.6V/cell</td>
<td>4.1V/cell</td>
<td>1C or less</td>
<td>2.5V/cell or higher</td>
</tr>
<tr>
<td>LiPo</td>
<td>3.7V/cell</td>
<td>4.2V/cell</td>
<td>1C or less</td>
<td>3.0V/cell or higher</td>
</tr>
<tr>
<td>Life</td>
<td>3.3V/cell</td>
<td>3.6V/cell</td>
<td>4C or less (e.g. A123M1)</td>
<td>2.0V/cell or higher</td>
</tr>
<tr>
<td>Pb</td>
<td>2.0V/cell (Lead-acid)</td>
<td>2.46V/cell</td>
<td>0.4C or less</td>
<td>1.50V/cell or higher</td>
</tr>
</tbody>
</table>
is multiplied by the number of cells but the voltage remains same. That kind of voltage imbalance causes a fire or explosion during charge process. We recommend you compose the Lithium battery pack in series only.

**Discharge**

- The typical purpose of discharge is to determine the residual capacity of the battery, or to lower the voltage of battery to a defined level. When you discharge the battery you also have to pay attention on the process same as charging. To avoid the battery becoming deep-discharged, set the final discharge voltage correctly. Lithium batteries should not be deep-discharged to lower than the minimum voltage, as this leads to a rapid loss of capacity or a total failure. Generally, you do not need to discharge Lithium battery voluntarily.

- Some rechargeable batteries are said to have a memory effect. If they are partly used and recharged before the whole charge is drawn out, they 'remember' this and next time will only use that part of their capacity. This is a 'memory effect'. NiCd and NiMH batteries are said to suffer from memory effect. They prefer complete cycles; fully charge then use until empty, do not recharge before storage-allow them to self-discharge during storage. NiMH batteries have less memory effect than NiCd.

- The Lithium battery prefers a partial rather than a full discharge. Frequent full discharges should be avoided if possible. Instead, charge the battery more often or use a larger battery.

- The brand-new NiCd battery pack is partially useful with its capacity until it has been subjected to 10 or more charge cycles in any case. The cyclic process of charge and discharge will lead to optimise the capacity of battery pack.

**Those warnings and safety notes are particularly important. Please follow the instructions for a maximum safety; otherwise the charger and the battery can be damaged violently. And also it can cause a fire to injure a human body or to lose the property.**
4. Program flow chart

STARTUP PICTURE

Batt.Type

Li

Enter Start

Dec

Inc

Li type

Enter Start

Inc

Dec

Li Ion

Li Fe

Li Po

CHG/DCHG

Enter Start

Inc

Dec

CHG

DCHG

Series

Enter Start

Dec

Inc

3.6V

7.2V

10.8V

21.6V

18.0V

14.4V

Current

Enter Start

Dec

Inc

0-7.0A Step 0.1A

BALS CHG

Enter Start

Dec

Inc

Off

On

CHG speed

Enter Start

Dec

Inc

Normal

Fast

Slow

Max capa

Enter Start

100mAH-49.95AH Step 50mAH

Safe time

Enter Start

10min-1430min Step 10min

Cycle

Enter Start

From 1 to 10 cycle charge / discharge

Save

Enter Start

M[0-9]
Refer To The Previous Page

Ni

Dec Inc

Ni type

Dec Inc

Enter Start

NiCD

Dec Inc

NiMH

CHG/DCHG

Dec Inc

Enter Start

CHG

Dec Inc

DCHG

Series

Dec Inc

Enter Start

1.2V

Dec Inc

2.4V

Dec Inc

3.6V

Dec Inc

7.2V

Dec Inc

6.0V

Dec Inc

4.8V

Dec Inc

8.4V

Dec Inc

9.6V

Dec Inc

10.8V

Dec Inc

14.4V

Dec Inc

13.2V

Dec Inc

12.0V

Dec Inc

15.6V

Dec Inc

16.8V

Dec Inc

18.0V

Dec Inc

20.4V

Dec Inc

19.2V

Current

Dec Inc

Enter Start

0-7.0A Step 0.1A

Dec Inc

Load

Dec Inc

Enter Start

Setup

Dec Inc

To Next Page

Pb

Dec Inc

03mV-30mV/Cel step 1mV

Dec Inc

Max capa

Enter Start

100mAH-49.95AH step 50mAH

Dec Inc

Safe time

Enter Start

10min-1430min step 10min

Dec Inc

Cycle

Enter Start

From 1 to 10 cycle charge / discharge

Dec Inc

Trickle

Enter Start

10mA-900mA step 10mA

Dec Inc

Save

Enter Start

M[0-9]
Refer To The Previous Page

Pb

Enter
Start

CHG/DCHG

Enter
Start

Dec
Inc

Series

Enter
Start

Dec
Inc

Current

Enter
Start

Dec
Inc

Max capa

Enter
Start

Dec
Inc

Safe time

Enter
Start

Dec
Inc

Cycle

Enter
Start

Dec
Inc

Trickle

Enter
Start

Dec
Inc

Save

Enter
Start

M[0-9]

Load saved setting from memory : [0-9]

Load

Enter
Start

Setup

Enter
Start

CHG
Inc
Dec
DCHG

Backlight

Enter
Start

Dec
Inc

On
Inc
Dec
Off

Key Buzz

Enter
Start

Dec
Inc

On
Inc
Dec
Off

Finish Buzz

Enter
Start

Dec
Inc

On
Inc
Dec
Off

CHG Limit

Enter
Start

Dec
Inc

1-80W Step 1W

DHG Limit

Enter
Start

Dec
Inc

1-5.0W Step 1W

To Next Page
Refer To The Previous Page

**BAT Int. R**
- **Enter**
  - **Start**
  - **Measure internal resistance**

**Temp. limit**
- **Enter**
  - **Start**
  - **30-60°C Step 1°C**

**Cool time**
- **Enter**
  - **Start**
  - **0-60min Step 1min**

**In Vol Low**
- **Enter**
  - **Start**
  - **10.0-17.9V Step 0.1V**

**In Vol High**
- **Enter**
  - **Start**
  - **10.1-18.0V Step 0.1V**

**LCD Const**
- **Enter**
  - **Start**
  - **0-20 contrast adjust**

**Li_V_D/CHG**
- **Enter**
  - **Start**
  - **Li Po CHG Vol**
    - **Dec**
    - **Inc**
  - **Li Po DHG Vol**
    - **Dec**
    - **Inc**
  - **Li Io CHG Vol**
    - **Dec**
    - **Inc**
  - **Li Io DHG Vol**
    - **Dec**
    - **Inc**
  - **Li Fe CHG Vol**
    - **Dec**
    - **Inc**
  - **Li Fe DHG Vol**
    - **Dec**
    - **Inc**

**Factory**

**WARNING!**
Only for professional user!
5. Exterior of the unit

- **Input power cable (DC10~18V)**
- **Graphics LCD Module 128x64 dots**
- **AC Input power (AC100-240V)**
- **Temperature sensor port**
- **Individual cell connector port**
- **Charging lead connector (4mm banana female)**
- **Batt type/Stop**
  - To select main program
  - To stop the operation
- **Dec/Inc**
  - To select sub program
  - To alter the value
- **Start/Enter**
  - To resume or start the operation
6. Operation Instructions for Charger

I. Screen Interface

There are two types of screen Interface available for this charger.

1. Graph Type Interface for Charging and Discharging (Option 1)

2. Menu Type Interface (Option 2)

Note: There are 2 types of interface and can be switched by pressing the “Batt. Type” button.

II. Menu operations

Lipo setting

1. Press "Batt.type" button to switch to the Main Menu Page.
2. Press "Dec" or "Inc" button to select "LI" mode.
3. Press "Enter" button to confirm Lipo Functionality.

Selection of the Battery

1. Press "Dec" or "Inc", Cursor will move to the "LI type".
2. Press "Enter" to go into, Confirm the battery type by pressing "Dec" or "Inc". There are three kinds of battery type in this field, "Lipo", "Lion" and "LiFe".
3. Press "Enter" to confirm after set up.
Selection of charge or discharge
7. Press "Enter" Cursor will move to "CHG/DCHG" parameter.
8. Press "Enter" again, choose "CHG" or "DCHG" by pressing "Dec" or "Inc". (Similar to the functionality for Lipo)

Battery concatenation series setting
9. Cursor will move to "Series" parameter.
10. Press "Enter" to go into, press "Dec" or "Inc" to change the parameter; range from 1S to 6S.

Charge Current Setting (Please set up in accordance to battery’s manufacturer recommendation.)
11. Cursor will now move to "Current" parameter.
12. Press "Enter" again to set the current charge. Current is changed by pressing "Dec" or "Inc". Current Charge ranges from 0Amp-7Amp at 0.1A interval.
   Hold on to both "Dec" or "Inc" change the charge rate by 0.3Amps increment.

Balance charging Setting
13. Cursor will now move to "BALS CHG" (Balance Charge Option)
14. Press "Enter" again to set balance charge to on or off by pressing "Dec" or "Inc". On and Off indicates charging with or without balance charge.

Charging speed setting
15. Charging Speed function sets the charging speed and sets the cut off charging current based on the setting.

Limiting of battery’s charging capacity
16. Press "Enter" and the cursor will to "Max capa" parameter.
17. Press "Enter" again in the "Max capa" screen, change the capacity by pressing "Dec" or "Inc". It can be set between 100mAH (0.1Ah) to 49,950 mAh(49.95AH) in intervals of 50mAH.
   Intervals of 500mAh can be used instead by holding onto "Dec" or "Inc" for a few seconds. Press "Enter" again when the desired value of charge capacity is set. This functionality can be used to set storage capacity. Charging will stop upon reaching the set value. Default value of capacity charge is set at 5000mAh (5Ah).

Limiting Charging Time
18. The cursor will move to "Safe Time".
19. Press "Enter" again in this parameter, and press "Dec" or "Inc"to set the charge time in minutes.
   This parameter allows variation from 10 minutes to 1430 minutes at 10 minutes interval. Larger interval timing (30 minutes per interval) can be set by holding "Dec" or "Inc" button for a few seconds. Press "Enter" to confirm. Should this parameter be set, the charger will stop its operations upon reaching the set value. Default value of this functionality is set at 300 minutes (5 hours).
Charging / Discharging Cycle Setting
20. The cursor will move to the "cycle" parameter.
21. Press "Enter" again in this parameter and set the times of cycles according by pressing "Dec" or "Inc" button. It can be set from 1 to 10 times.

Note: 1 unit in this parameter means a single charge (either Charge or Discharge), thus a FULL cycle (one charge and one discharge) is called for when 2 is selected.

Charging or Discharging by click "CHG/DCHG". This functionality will work in accordance to the "CHG/DCHG" parameter that was set initially. Should "CHG/DCHG" be chosen, the charger will first charge followed by discharge and should the other be set, the charger will discharge the battery before charging.

Save the settings
22. Cursor will now move to "save" parameter.
23. Press "Enter", choose one number profile from 0 to 9 and save the set up value by pressing enter. Charger has the capability to save up to 10 different profiles for various uses and the profile numbers varies from 0 to 9 totally 10 groups. The profile can be called out in the "Load" menu.

Charging
24. To start charging/discharging, simply hold on "Enter" button for a few seconds and the charger will start charging/discharging the battery.

Ni setting
1. Press "Batt.type" button to choose the type of battery.
2. Press "Dec" or "Inc" button, cursor will move to "Ni". Highlighted category is the chosen battery type.
3. Press "Enter" button to confirm the desired battery type.

Type of battery Select
4. Cursor moves to Ni type by pressing "Dec" or "Inc".
5. Press "Enter" again, and select nimh (Nickel Metal Hydride) or nicd (Nickel Cadmium) by pressing "Dec" or "Inc".
6. Press "Enter" to confirm the desired type of battery.

Charging or discharging selection
7. Cursor moves to "CHG/DCHG" parameter.
8. Press "Enter" again, choose between CHG and DCHG. (Similar to the functionality for Lipo)
9. Press "Enter" to confirm the setup.

Battery concatenation series set up
10. Cursor moves to "Series" parameter.
11. Press "Enter" button again to set no. of cells for batteries pack. This charger can charge
between 1-17 cells, with voltage between 1.2V to 20.4V

Current rate set up (Current is set at maximum 0.3C of the battery)
12. Cursor moves on to "Current" parameter.
13. Press "Enter" to set the charging rate. It can be set between 0Amps-7Amps at 0.1A interval. Value of the current can be set by pressing "Dec" or "Inc" button. Press "Enter" to confirm the charge current. High interval setting (0.3A) can be set by holding onto "Dec" or "Inc" for a few seconds.

-ΔV set up
15. Press "Enter" once again to set up the delta peak voltage which can range from 3mV/Cell to 30mV/Cell. Default value of the charger is set at 3mV/cell.

Limit of battery charging capability
16. Cursor moves to "Max Capa" parameter.
17. Press "Enter" to set capacity of battery. Press "Dec" or "Inc" button to set the desired capacity of battery. This charger can charge between 100mAH (0.1Ah) to 48,950mAh. The interval between each hit is 50mAH. Increased in interval (500mAh) can be obtained by holding "Dec" or "Inc" for a few seconds. Charger will stop charging when the desired set capacity is peaked. Default value of the charger is 5000mAH.

Limiting Charging Time
18. Cursor moves to "Safe time" function.
19. Press "Enter" to set the value of time limiting factor. The value is changed by pressing "Dec" or "Inc" button. It can be set between 10 minutes to 1430 minutes. The interval per press is 10 minutes. Increased in interval (30 minutes) can be obtained by holding "Dec" or "Inc" a few seconds. Charger will stop charging when the desired set charging time is peaked. Default value of the charger is 300 minutes.

Set up of charging /discharging cycle times
20. Cursor moves to "Cycle" function.
21. Press "Enter" again to set the number of cycles for the battery. It can be set from 1 to 10 times. Please refer to setting of Lipo functionality for more details.

Trickle charging (It is used to keep the charge capacity and hold maximum Voltage before use. Recommended value should NOT be greater than 0.05 C of the battery.)
22. Cursor moves to "Trickle" Charge functionality.
23. Press "Enter" again to set from a variation of 10mA to 900mA by pressing the "Dec" or "Inc" button. Press "Enter" to confirm the value when the desired number is fixed. For a higher value interval of (30mA), Please hold on to "Inc" or "Dec" for a few seconds.

Save the setting
24. Cursor moves to "save" mode.
25. Press "Enter", select a number to save the value which have been set before. The value can be recalled when you need.
Charging

26. To start charging/discharging, simply hold on "Enter" button for a few seconds and the charger will start charging/discharging the battery.

PB (Lead) battery setting

1. Press "Batt.type" button to go to the Main Menu Page.
2. Press "Dec" or "Inc" button to select "PB" mode.
3. Press "Enter" button to enter Lead Battery functionality.

Battery concatenation series setting

6. Cursor moves to "Series" parameter.
7. Press "Enter" button to set no. of cells for batteries pack. This charger can charge between 1-12 cells, with voltage between 12V to 24V.

Current setting: (Recommended current setting should NOT be greater than 0.3C of battery)

8. Cursor moves on to "Current" parameter.
9. Press "Enter" to set the charging rate. It can be set between 0Amps-7Amps at 0.1A interval. Value of the current can be set by pressing "Dec" or "Inc" button. Press "Enter" to confirm the charge current. High interval setting (0.3A) can be set by holding on to "Inc" or "Dec" for a few seconds.

Battery charge capacity limit

10. Cursor moves to "Max Capa" parameter.
11. Press "Enter" to set capacity of battery. Please press "Inc" or "Dec" button to set the desired capacity of battery.

This charger can charge between 100mAh (0.1Ah) to 49,950mAh (49.95Ah). The interval between each hit is 50mAh. Increased in interval (500mAh) can be obtained by holding "Inc" or "Dec" button for a few seconds. Battery Charger will stop charging when the desired set capacity is peaked. The default value is 5000mAh.

Limiting Charging Time

12. Cursor moves to "Safe time" function.
13. Press "Enter" again to set the value of time limiting factor. The value is changed by pressing "Dec" or "Inc" button. It can be set from 10 minutes to 1430 minutes. The interval per press is 10 minutes.
High interval setting (30 minutes) can be set by holding on to "Inc" or "Dec" for a few seconds. Battery Charger will stop charging when the desired set capacity is peaked. The default value is 300 minutes.

**Charge/Discharge circulating times setting**

15. Press "Enter" again to set the number of cycles for the battery. It can be set 0 to 10 times. Please refer to setting of Lipo functionality for more details.

**Floating charge current**

16. Cursor moves to "Trickle" Charge function.
17. Press "Enter" again to set from a variation of 10mA to 900mA by pressing the "Inc" or "Dec" button. Press "Enter" to confirm the value when the desired number is fixed. For a higher value interval of (30mA), Please hold on to "Inc" or "Dec" for a few seconds.

**Saving setting**

18. Cursor moves to "save" mode.
19. Press "Enter", select a number to save the value which have been set before. The value can be recalled when you need.

**Charging**

20. To start charging/discharging, simply hold on "Enter" button for a few seconds and the charger will start charging/discharging the battery.

**Loading Previously saved profile**

1. Press "Batt.type" button to go to the Main Menu Page.
2. Press "Dec" or "Inc" button to select "Load" mode.
3. Press "Enter" button to confirm Load functionality.
4. Press "Dec" or "Inc" to choose the saved profile number which you like to call out followed by Pressing "Enter" to confirm the choice.

5. Long press "Enter" button to enter charging/discharging state.

**Charger Setup Option**

1. Press "Batt.type" button to go to the Main Menu Page.
2. Press "Dec" or "Inc" button to select "Setup" mode.
3. Press "Enter" button to confirm Setup functionality.
Backlighting control

4. Cursor moves to "Backlight" parameter.

5. Please press "INC" or "DEC" button to set the Backlight to On or Off.

Buzzer contro

6. Cursor moves to "Key Buzz" parameter.

7. Press "Enter" to set the Key Buzz option. Please press "INC" or "DEC" button to set the Key Buzz to On or Off.

Full Charge/discharge Buzzer

8. Cursor moves to "Finish Buzz" parameter.

9. Press "Enter" to set the Finish Buzz option. Press "INC" or "DEC" button to set the Finish Buzz to On or Off. Buzzer will sound to indicate complete charge/discharge if set to "on". Otherwise, there will be no sound indication.

Charge power limit

10. Cursor moves to "CHG Limit" parameter.

11. Press "Enter" to set the CHG Limit option. Press "INC" or "DEC" button to set Charge Power Limit. It can be set from a variation of 1W to 80W by pressing the "INC" or "DEC" button. The default value is 80W. For a higher value interval of (3W), please hold onto "INC" or "DEC".

Discharge power limit

12. Cursor moves to "DCHG Limit" parameter.

13. Press "Enter" again to set the CHG Limit option. Please press "INC" or "DEC" button to set discharge Power Limit. Press "Enter" again to set from a variation of 1W to 5W by pressing the "INC" or "DEC" button. The default value of this functionality is set at 5W.

Battery internal resistance test

Please check that the battery and the charger is connect correctly before operation.


15. Press "Enter" button to go into Battery resistance test. A screen similar to the one on the left will show after a few seconds later. The content which shows on the screen is basically depends on the parameters of the battery.

16. To restart the test, simply press "DEC" or "INC" button.

17. To go back to the previous menu, simply press "Enter" or "Batt.type".

Note: Please note that a discharge of a few seconds of 1A will done on the battery during the test.
Temperature Limit

18. Cursor moves to "Temp Limit" parameter when enter is pressed.
19. Press "Enter" again to set from a variation of 30°C to 60°C by pressing the "INC" or "DEC" button. For a higher value interval of (1°C), please hold on to Inc or Dec. The default value of this functionality is set at 50°C. The charger will stop charging when the Max. Temperature is sensed from the temperature probe.

Note: This function only works with a Temperature probe which can be purchased separately.

Cooling time

This option is used to set the resting time between charging and discharging when the cycle mode is in used.
20. Cursor moves to "Cool time" parameter.
21. Press "Enter" to set the Cool time option. Please press "INC" or "DEC" button to set cooling time. It can be set from a variation of 1min to 60min by pressing the "INC" or "DEC" button. For a higher value interval of (3 minutes), please hold on to Inc or Dec. The default value of this functionality is set at 1 minute.

Input Lowest voltage Limit

22. Cursor moves to "In Vol low" parameter.
23. Press "Enter" again to set the Lowest Voltage Limit option. Please press "INC" or "DEC" button to set Voltage. Press "Enter" again to set from a variation of 10V to 18V by pressing the "INC" or "DEC" button. Press "Enter" to confirm the value when the desired number is fixed. The default value is 10v. For a higher value interval of (0.3V), please hold on to "INC" or "DEC".

Input highest voltage Limit

24. Cursor moves to "In Vol High" parameter.
25. Press "Enter" again to set the Highest Voltage Limit option. Please press "INC" or "DEC" button to set Voltage. Press "Enter" again to set from a variation of 10V to 18V by pressing the "INC" or "DEC" button. Press "Enter" to confirm the value when the desired number is fixed. The default value is 18v. For a higher value interval of (0.3V), please hold on to "INC" or "DEC".

LED show contrasting Adjust

26. Cursor moves to "LCD Const" parameter.
27. Press "Enter" again to set the LED Contrast option. Please press "INC" or "DEC" button to set Voltage. Press "Enter" again to set from a variation of settings from 0 to 20 by pressing the "INC" or "DEC" button. Press "Enter" to confirm the contrast when the desired adjustment is fixed. The default value is set at 9.

Lipo battery charge/discharge range set

Warning: For Professional Use Only!
28. Cursor moves to "Li_V_D/CHG" parameter.
29. Press "Enter" again and select Factory by pushing either "Dec" or "Inc" to fine tune the default setting. Or select Setting to enter the interface and set the values in accordance to what is desired. Sample picture is shown on the left.

III. charging interface

Confirm charging & discharging parameter
1. When charging parameter is being set up. The functionality of Charging or Discharging will be started up automatically when holding onto "Enter" in either Menu or Charging & Discharging interface.
2. Upon confirming that all parameters are correct, press Enter button to see charging & discharging status graph. To exit, simply press the "Batt.type" button.

Charging / discharging Graphic display interface
3. In this Interface, user can enter the individual monitoring parameters separately by pressing either the "Dec" or "Inc" button.
4. To halt the process, simply press "Batt.type" button.

Monitoring Interface
5. If cycles are set for both charging & discharging, similar to the picture on the left. Details can be shown by pressing "Dec" or "Inc" button, to review the status of charging & discharging in progress.

**Confirm charging & discharging parameter**

6. When charging parameter is being set up. The functionality of Charging or Discharging will be started up automatically when holding onto "Enter" in either Menu or Charging & Discharging interface.

7. Upon confirming that all parameters are correct, press "Enter" button to see charging & discharging status graph. To exit, simply press the "Batt.type" button.

Attach: the definition of the character which located on the top right corner of the charge/discharge interface

1. "CHG" ----- charge
2. "BALC" ----- balance charge
3. "DCHG" ----- discharge
4. "Cool" ----- circle charging/discharging interval
5. "****2" ----- the figure represent the number of charge/discharge cycle
6. "FINISH" ----- Finished current setting charge/discharging
7. "None" ----- There is no charging/discharging since power on.
8. "VIEW" ----- Enter graph view mode.
9. "POWER" ----- wrong input power (The power is insufficient or the voltage is not in the setting range)
10. "BAT ER" ----- wrong battery connection (such as transposition, disconnect)
14. Warranty and service

We warrant this product for a period of one year (12 months) from the date of purchase. The guarantee applies only to such material or operational defects, which are present at the time of purchasing the product. During that period, we will replace without service charge any product deemed defective due to those causes. You will be required to present proof of purchase (invoice or receipt). This warranty does not cover the damage due to wear, overloading, incompetent handling or using of incorrect accessories.

Note:

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