

# INSTRUCTION MANUAL

*H100AC/DC*



[www.ht-rc.com](http://www.ht-rc.com)



**AC/DC INPUT**  
Professional Balance Charger/Discharger



**MADE IN CHINA**

规格：280\*140mm

|  |    |
|--|----|
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## SOFTWARE FIRMWARE UPGRADE

Please visit our website [www.HT-RC.COM](http://www.HT-RC.COM), to stay up to date with the latest software and firmware for our product in your hand.

## WARRANTY

SHENZHEN HUITUO provide a period of one year product warranty from the date 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 use guideline in this manual.

**LIABILITY EXCLUSION**  
This charger is designed and approved exclusively for charge the types of battery stated in this manual. SHENZHEN HUITUO do not accept any liability if the charger is used for any purpose other than that stated. We are unable to ensure you follow the instructions come with the charger, and we have no control over the methods you employ for using, operating and maintaining this device.

For this reason we are obliged to deny the liability for loss, damage or costs which are incurred due to the incompetent or incorrect use and operation of this product, 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 products which were immediately and directly involved in the event in which the damage occurred

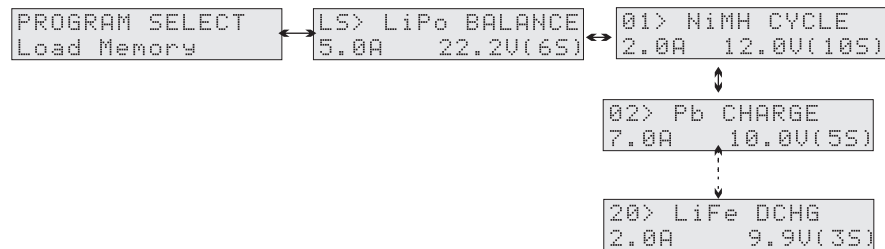
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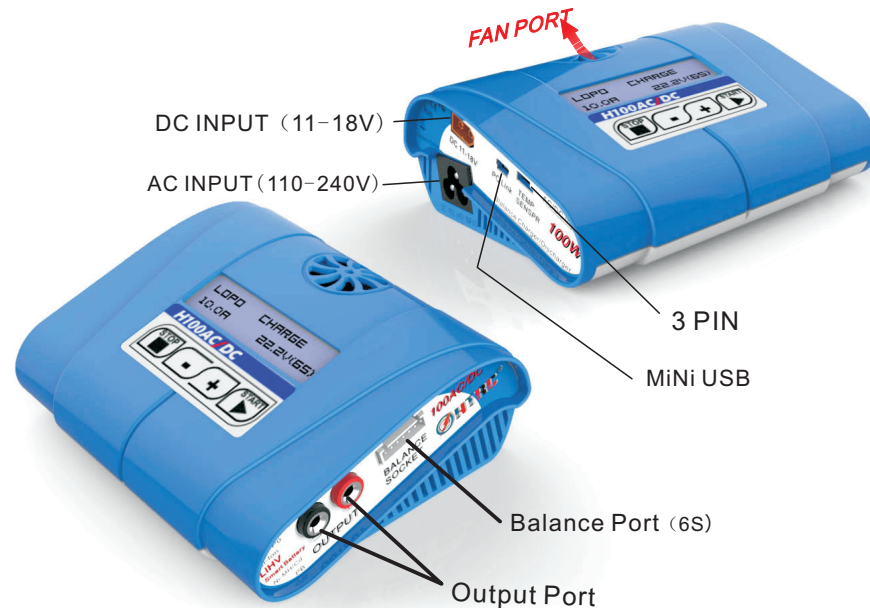
## Menu Chart



There are 20 memories record the work of the charger. LS=latest record. Press +/- to shift the memories, press ENTER to revise, then press ENTER for 2 seconds to start working.

Thank You for purchasing the **HTRC**® charger. Designed for both rookies and Pro-fessionals this system is extremely versatile. For the safety and the best use of your system, please read this manual carefully.

For any difficulties with your system, we offer multiple resources to assist you, including this manual, online Freque Asked Questions webpage ([www.ht-rc.com](http://www.ht-rc.com)) your hobby dealer, or the SHENZHEN HUITUO Support and Service Center Cause unforeseen changes, the information contained in this manual is subject to change without notice.



|                   |                                  |
|-------------------|----------------------------------|
|                   | <b>H100AC/DC</b>                 |
| AC INPUT          | 110-240V                         |
| Power Supply      | DC 11-18V                        |
| Display           | 1602 LCD Screen                  |
| Supported Battery | LiPo,LiIon,LiFe,LIHV 1-6 cells   |
|                   | NiCd,NiMH 1-15 cells             |
|                   | Pb(Lead Acid) 2-20V              |
|                   | Smart Battery I/II/III           |
| Charge Power      | 100W                             |
| Charge Current    | 0.1-10A                          |
| Discharge Power   | 10W                              |
| Discharge Current | 0.1-2.0A                         |
| Balancing current | 400mA                            |
| USB Output        | —                                |
| Sub Function      | Digital Power, Balancer, IR Test |
| Firmware upgrade  | External Mini USB device         |
| Languages         | English                          |
| Ext.Temp socket   | <b>Futaba 3P socket</b>          |
| Memory            | 20 memories                      |
| Dimensions        | L122*W139*H53mm                  |
| Weight            | 498g                             |
| Smart battery     | 5-25V,0.1-10A                    |

## Accessories



Adapter Board 1SET



Extra Cable x1pc



DC Cord x1pc



AC Cord x1pc

INPUT VOLTAGE  
TOO HIGH

Input voltage is higher than 18V, check the power supply, then restart the charger.

INPUT VOLTAGE  
TOO LOW

Input voltage is lower than the value of LOW INPUT VOLTAGE CUT- OFF, check the power supply, then restart the charger.

REVERSE POLARITY  
CHECK

Reverse polarity, check the connection between the charger and the battery, correct the connection, then restart the work.

BATTERY CHECK  
DISCONNECT

Battery disconnect, check the connection between the charger and the battery, then restart the work.

BATTERY CHECK  
OVER VOLTAGE

Total voltage of the battery is over the termination voltage control(TVC), check the battery and the TVC setting, then restart.

BATTERY CHECK  
LOWER VOLTAGE

Total voltage of the battery is lower than the termination voltage control(TVC), check the battery and the TVC setting, then restart.

BATTERY CHECK  
CELL COUNT ERROR

Cell count detected by the charge is different from the setting, check the battery cell count and reset the cell count of the work.

BATTERY CHECK  
OVER CELL VOLT

Cell voltage of the battery pack is over the termination voltage control(TVC), check the battery and the TVC setting, then restart.

BATTERY CHECK  
LOWER CELL VOLT

Cell voltage of the battery pack is lower the termination voltage control(TVC), check the battery and the TVC setting, then restart.

BATTERY CHECK  
FULL BATTERY

Full battery, no need to charge.

OVER Ext.TEMP  
CUTOFF

External temperature is higher than the setting value, cutoff.

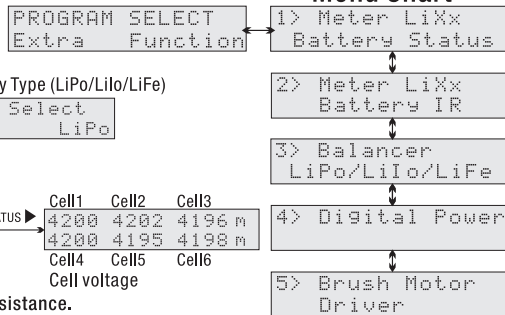
OVER CAPACITY  
CUTOFF

Capacity is over than the setting value, cutoff.

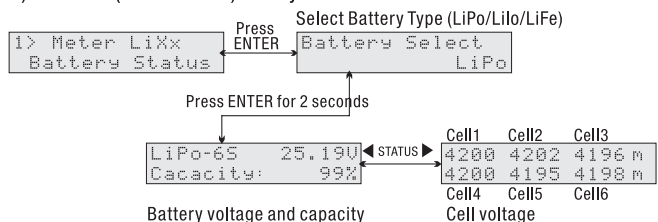
SAFETY TIME OUT  
CUTOFF

Time is up to the setting value of Safety Timer, cutoff.

Menu Chart



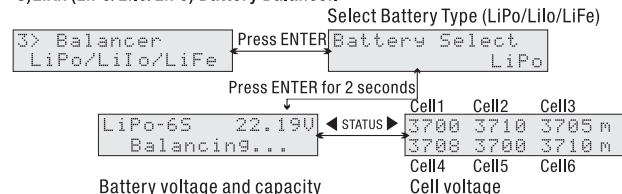
1) Meter LiXx (LiPo/LiIo/LiFe) battery status.



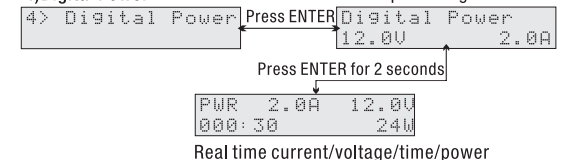
2) Meter LiXx (LiPo/LiIo/LiFe) battery internal resistance.



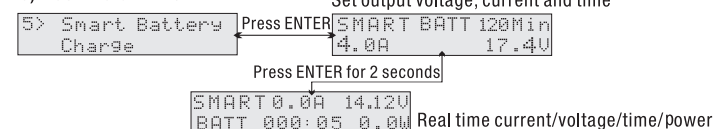
3) LiXx (LiPo/LiIo/LiFe) Battery Balancer.



4) Digital Power



5) Brush Motor Driver



- ⚠ - This charger can only work under DC power supply, never connect the input jack to the AC power.
- ⚠ - This charger is ONLY suitable for charge rechargeable LiPo, Lilo, LiFe, LiHv, NiCd, NiMH, Smart and Pb batteries. Do not attempt to charge dry cells. Charge other types of batteries may cause fire or explosion.
- ⚠ - Set up the InputPower Limit/Low Input VOLT Cutoff correctly in the USER SETTING for the DC power supply.
- ⚠ - Pay attention to the charger during use. Do not leave the charger unattended.
- ⚠ - Never charge the dead or damaged batteries.
- ⚠ - Do not attempt to charge a battery pack containing different types of batteries.
- ⚠ - Do not use a too short or damaged cables.
- ⚠ - Do not use the charger close by a flammable object. Use only in well-ventilated areas.
- ⚠ - Only charge the rechargeable batteries that meet the product specifications of this charger.
- ⚠ - Do not allow water, moisture or foreign objects into the charger.
- ⚠ - Do not use in humid locations. Do not operate with wet hands.
- ⚠ - Do not attempt to disassemble the charger.
- ⚠ - Do not use the charger on fleecy materials, such as carpets, blankets, beds and cushions.
- ⚠ - Do not block the cooling fan and the air inlet.
- ⚠ - Strongly recommend balancing Lithium packs. An unbalanced pack may damage during discharging.
- ⚠ - General default charging current is 1C. Read the manual of the battery and setup the suitable current to charge the battery. Higher charge/discharge current will damage the battery, even cause a fire.

| Battery Type | No.o f Cells | Rated Voltzge(V) | Char Current(A) |
|--------------|--------------|------------------|-----------------|
| LiHV         | 1            | 3.8              | 0.1-10.0A       |
|              | 2            | 7.6              | 0.1-10.0A       |
|              | 3            | 11.4             | 0.1-10.0A       |
|              | 4            | 15.2             | 0.1-10.0A       |
|              | 5            | 19.0             | 0.1-10.0A       |
|              | 6            | 22.8             | 0.1-10.0A       |
| Lipo         | 1            | 3.7              | 0.1-10.0A       |
|              | 2            | 7.4              | 0.1-10.0A       |
|              | 3            | 11.1             | 0.1-10.0A       |
|              | 4            | 14.8             | 0.1-10.0A       |
|              | 5            | 18.5             | 0.1-10.0A       |
|              | 6            | 22.2             | 0.1-10.0A       |
| LiIo         | 1            | 3.6              | 0.1-10.0A       |
|              | 2            | 7.2              | 0.1-10.0A       |
|              | 3            | 10.8             | 0.1-10.0A       |
|              | 4            | 14.4             | 0.1-10.0A       |
|              | 5            | 18               | 0.1-10.0A       |
|              | 6            | 21.6             | 0.1-10.0A       |
| LiFe         | 1            | 3.3              | 0.1-10.0A       |
|              | 2            | 6.6              | 0.1-10.0A       |
|              | 3            | 9.9              | 0.1-10.0A       |
|              | 4            | 13.2             | 0.1-10.0A       |
|              | 5            | 16.5             | 0.1-10.0A       |
|              | 6            | 19.8             | 0.1-10.0A       |
| NiMH /NiCd   | 1            | 1.2              | 0.1-10.0A       |
|              | 2            | 2.4              | 0.1-10.0A       |
|              | 3            | 3.6              | 0.1-10.0A       |
|              | 4            | 4.8              | 0.1-10.0A       |
|              | 5            | 6                | 0.1-10.0A       |
|              | 6            | 7.2              | 0.1-10.0A       |
|              | 7            | 8.4              | 0.1-10.0A       |
|              | 8            | 9.6              | 0.1-10.0A       |

| Battery Type | No.o f Cells  | Rated Voltzge(V) | Char Current(A) |           |
|--------------|---|------------------|-----------------|-----------|
| NiMH /NiCd   | 9   | 10.8             | 0.1-10.0A       |           |
|              | 10  | 12               | 0.1-10.0A       |           |
|              | 11  | 13.2             | 0.1-10.0A       |           |
|              | 12  | 14.4             | 0.1-10.0A       |           |
|              | 13  | 15.6             | 0.1-10.0A       |           |
|              | 14  | 16.8             | 0.1-10.0A       |           |
|              | 15  | 18               | 0.1-10.0A       |           |
|              | Pb  | 1                | 2               | 0.1-10.0A |
|              |   | 2                | 4               | 0.1-10.0A |
|              |   | 3                | 6               | 0.1-10.0A |
|              |   | 4                | 8               | 0.1-10.0A |
|              |   | 5                | 10              | 0.1-10.0A |
|              |   | 6                | 12              | 0.1-10.0A |
|              |   | 7                | 14              | 0.1-10.0A |
|              |   | 8                | 16              | 0.1-10.0A |
| 9            |   | 18               | 0.1-10.0A       |           |
| 10           |   | 20               | 0.1-10.0A       |           |
| 11           |   | 22.0             | 0.1-10.0A       |           |
| 12           |   | 24.0             | 0.1-10.0A       |           |
| Lipo         | Voltage Level: 3.7V/cell Max Charge Voltage: 4.2V/Cell<br>Discharge Voltage Cut off Level: 3.0V/cell or Higher      |                  |                 |           |
| LiIo         | Voltage Level: 3.6V/cell Max Charge Voltage: 4.1V/Cell<br>Discharge Voltage Cut off Level: 3.0V/cell or Higher      |                  |                 |           |
| LiFe         | Voltage Level: 3.3V/cell Max Charge Voltage: 3.8V/Cell<br>Discharge Voltage Cut off Level: 2.0V/cell or Higher      |                  |                 |           |
| LiHV         | Voltage Level: 3.8V/cell Max Charge Voltage: 4.35V/Cell<br>Discharge Voltage Cut off Level: 3.2V/cell or Higher     |                  |                 |           |
| NiMH /NiCd   | Voltage Level: 1.2V/cell<br>Max Charge Voltage: 1.6V/Cell<br>Discharge Voltage Cut off Level: 0.80V/cell or Higher  |                  |                 |           |
| Pb           | Voltage Level: 2.0V/cell<br>Max Charge Voltage: 2.45V/Cell<br>Discharge Voltage Cut off Level: 1.50V/cell or Higher |                  |                 |           |

Safety Timer On 240Min

In this menu, you can set a safety time to protect your charger and battery. The charger will cutoff working when the safety time is up to the setting value. On/Off optional, range from 10-720 minutes, Default: 240 minutes

Charge Power Limit 250W

In this menu, you can set the charge power limit to meet your power supply. The charge will work under the setting value. Range from 10-250 watt, Default: 250 watt

LiXx Balance Control Standard

Balance control of LiPo/LiIo/LiFe, you can set the balance control to meet your demand. Standard/Fast/Accurate optional. Default: Standard

\*Fast: Balance speed fastest, less accurate.

\*Accurate: Balance speed lowest, more accurate.

\*Standard: balance speed and accurateness between Fast and Accurate

Reset Factory Default Setting

Reset factory default setting.

Termination Voltage Control

Termination voltage control per cell of all the batteries this charger support. You can set the value according to your request.

LiPo Charge TUC 4200mV/s

Range from 3850-4300mV/s  
Default: 4200mV/s

LiPo Discharge TUC 3200mV/s

Range from 3000-3850mV/s  
Default: 3200mV/s

**For LiHV (4350Mv/s)**  
**1. For the LiHV Battery, it needs to modify the spec data, and then enter into the LiPo Mode,**  
**2. For the LiHV or LiPo Battery, it needs to set the spec data, and the system can't autom-identify**

LiIo Charge TUC 4100mV/s

Range from 3750-4200mV/s  
Default: 4100mV/s

LiIo Discharge TUC 2500mV/s

Range from 3000-3750mV/s  
Default: 3100mV/s

LiFe Charge TUC 3600mV/s

Range from 3300-3800mV/s  
Default: 3600mV/s

LiFe Discharge TUC 2500 mV

Range from 2500-3300mV/s  
Default: 2500mV/s

NiMH Sensitivity

Range from 4-20mV

NiMH Discharge TUC 800mV

Range from 500-1000mV/s  
Default: 800mV/s

NiCd Sensitivity D.Peak 7mV

Range from 4-20mV  
Default: 7mV

NiCd Discharge TUC 1000mV

Range from 500-1000mV/s  
Default: 1000mV/s

Pb Charge TUC 2.4V/s

Range from 1500-2500mV/s  
Default: 2400mV/s

Pb Discharge TUC 1.5V/s

Range from 1000-1500mV/s  
Default: 1500mV/s

|                                 |                                  |                                |
|---------------------------------|----------------------------------|--------------------------------|
| PROGRAM SELECT<br>User Settings | Key Beep On<br>Buzzer On         | LiPo Charge<br>TVC 4200mV/s    |
|                                 | Completion Ring<br>Beep 1Min     | LiPo Discharge<br>TVC 3200mV/s |
|                                 | Cycle Waste Time<br>5Min         | LiIo Charge<br>TVC 4100mV/s    |
|                                 | Low Input VOLT<br>Cut-Off 10.0V  | LiIo Discharge<br>TVC 2500mV/s |
|                                 | Ext-TEMP Cut-off                 | LiFe Charge<br>TVC 3600mV/s    |
|                                 | Capacity Cut-off<br>On 5000mAh   | LiFe Discharge<br>TVC 2500mV/s |
|                                 | Safety Timer<br>On 240Min        | NiMH Sensitivity<br>D.Peak 4mV |
|                                 | Charge Power<br>Limit 250W       | NiMH Discharge<br>TVC 800mV    |
|                                 | LiXx Balance<br>Control Standard | NiCd Sensitivity<br>D.Peak 7mV |
|                                 | Termination<br>Voltage Control   | NiCd Discharge<br>TVC 1000mV   |
|                                 | Reset Factory<br>Default Setting | Pb Charge<br>TVC 2400mV/s      |
|                                 |                                  | Pb Discharge<br>TVC 1500mV/s   |

Key Beep On  
Buzzer VOL LOW

In this menu, you can turn on/off of the key sound and set the volume of the buzzer. Keep Beep default: On . Buzzer default: Low

Completion Ring  
Beep 1Min

In this menu, you can set the completion ring, 1-5 minutes/off/always optional. Default: 1Min

Cycle Waste Time  
5Min

In this menu, you can set the waste time between charge and discharge in NiMH/NiCd cycle mo Range from 1-60Min, Default: 5Min

Low Input VOLT  
Cut-Off 10.0V

In this menu, you can set the cutoff input voltage of the power supply of the charger to protect y power supply. The charger will cutoff working when input voltage lower than the setting value. Range from 10.0-18.0V, Default: 10.0V

Ext-TEMP Cut-off  
ON 80°C

In this menu, you can set the cutoff external temperature to protect your battery. The charger will cutoff working when the external temperature is higher than the setting value (a external temperature sensor is needed). On/Off optional, range from 30-90°C,Default: 80 °C

Capacity Cut-off  
ON 5000mAh

In this menu, you can set the cutoff capacity to protect your battery. The charger will cutoff working when the capacity is more than the setting value. On/Off optional range from 100-60000mAh ,Default: 8000mAh

PROGRAM SELECT  
LiPo/LiIo/LiFe

Enter this program, you can set the work mode(Balance Charge/ Charge/Fast Charge/ Storage /Discharge) and parameter of the LiPo/LiIo/LiFe batteries. See Page 06-07 for the details.

PROGRAM SELECT  
NiMH/NiCd

Enter this program you can set the work mode(Charge/Discharge/ Cycle) and parameter of the NiMH/NiCd batteries. See Page 08-09 for the details.

PROGRAM SELECT  
Pb(Lead Acid)

Enter this program, you can set the work mode(Charge/Discharge) and parameter of the Pb (Lead Acid) batteries. See Page 10-11 for the details.

PROGRAM SELECT  
User Settings

Enter this program, you can set the parameter of the charger, some important parameter will affects the work performance of the charger . See Page 12-13 for the details.

PROGRAM SELECT  
Extra Function

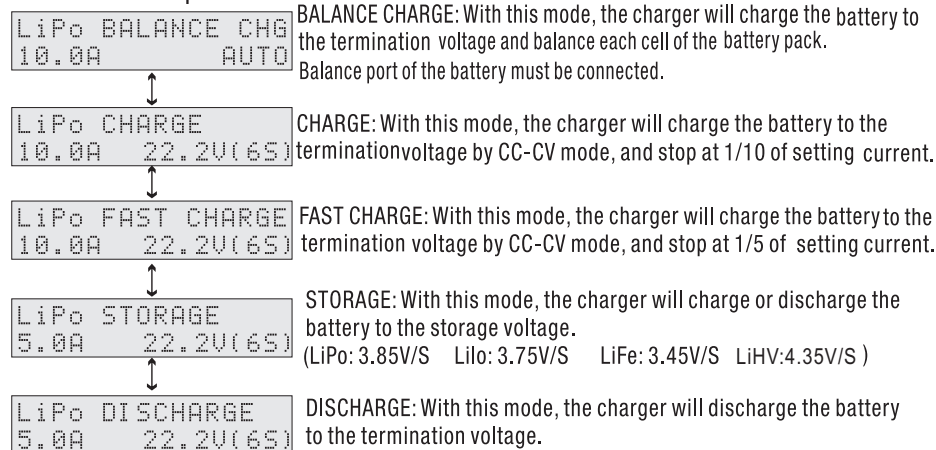
Enter this program, you can generate the extra functions of the charger, such as Meter LiXx Battery Status, Meter Internal Resistance, LiXx Balancer...etc. See Page 14 for the details.

PROGRAM SELECT  
Load Memory

Enter this program, you can load 20 sets memories that the charger had worked you can modify the work mode or start working directly See Page 16

## PROGRAM of LiPo/LiIo/LiFe

Press +/- to shift the work modes between the battery and the charger. Press ENTER to select  
Press STOP to quit

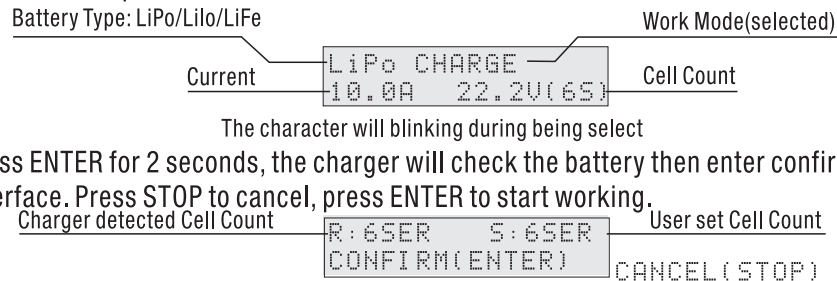


Select Battery Type/Current/Cell Count after work mode selection.

Press +/- button to shift or increase/decrease

Press ENTER to select

Press STOP to quit



## WORKING INTERFACE

### General

Battery type and cell count

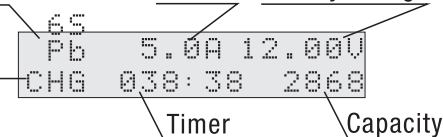
Alternate Show

Work Mode(short form)

CHG Charge

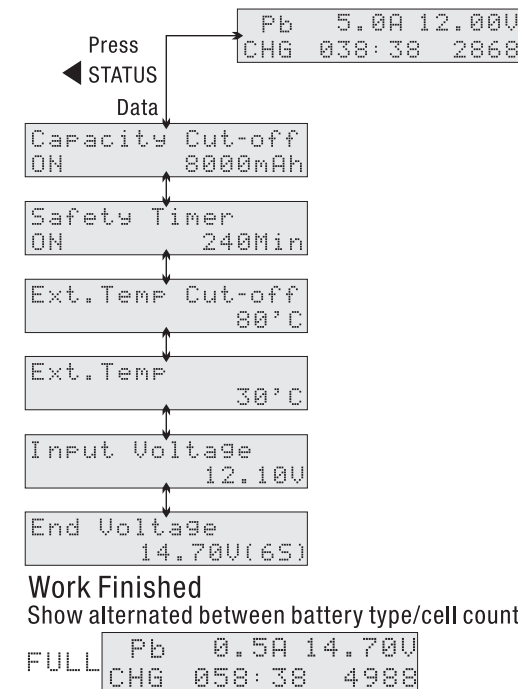
DSC Discharge

Current Battery Voltage



Status

Press ENTER to return

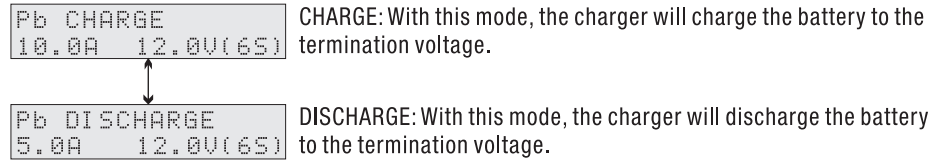




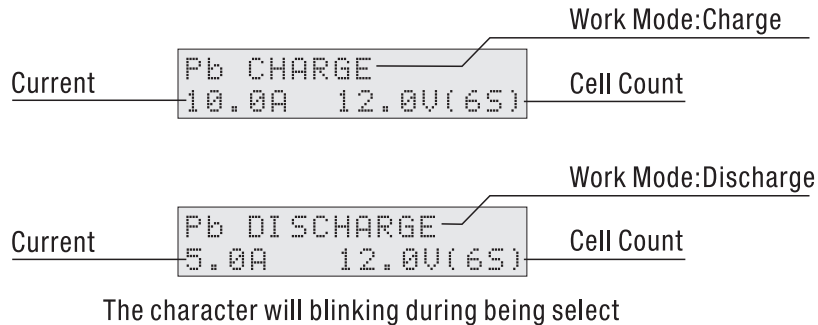
# PROGRAM of Pb(Lead-Acid)

# WORKING INTERFACE

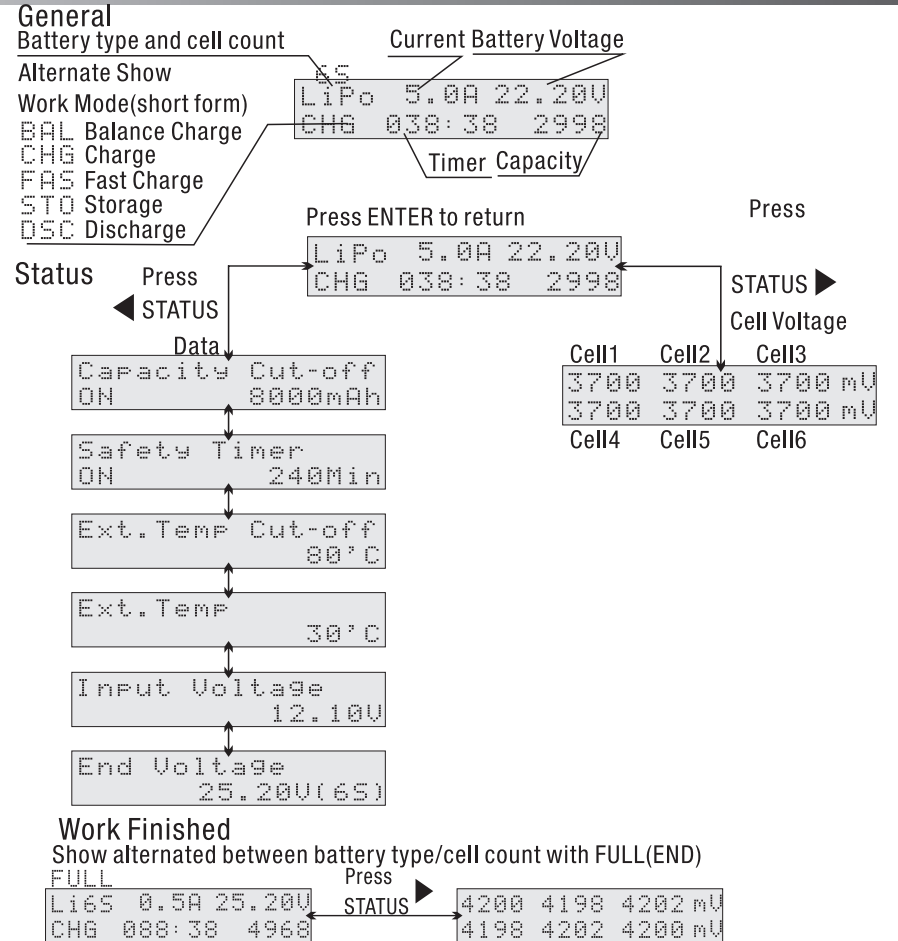
Press +/- to shift the work modes between the battery and the charger.  
 Press ENTER to select  
 Press STOP to quit



Select Current/Cell Count after work mode selection.  
 Press +/- button to shift or increase/decrease  
 Press ENTER to select  
 Press STOP to quit



Press ENTER for 2 seconds, the charger will start working.



# PROGRAM of NiMH/NiCd

Press +/- to shift the work modes between the battery and the charger.

Press ENTER to select

Press STOP to quit

```
NiMH CHARGE
10.00A
```

CHARGE: With this mode, the charger will automatically detect the cell count of the battery and charge the battery to the termination voltage.

```
NiMH DISCHARGE
5.00A 10.00V(10S)
```

DISCHARGE: With this mode, the charger will discharge the battery to the termination voltage.

```
NiMH CYCLE
C-D Times: 3
```

cycle: With this mode, the charger will charge and discharge the battery by the user's setting. (Current, Cell Count separately set in Charge and Discharge mode)

Select Battery Type/Current/Cell Count after work mode selection.

Press +/- button to shift or increase/decrease

Press ENTER to select

Press STOP to quit

Battery Type: NiMH/NiCd

```
NiMH CHARGE
10.00A
```

Work Mode: Charge

Current

Battery Type: NiMH/NiCd

```
NiMH DISCHARGE
5.00A 10.00V(10S)
```

Work Mode: Discharge

Current

Cell Count

Battery Type: NiMH/NiCd

```
NiMH CYCLE
C-D Times: 3
```

Work Mode: Cycle

Order

Times

The character will be blinking during being select

Press ENTER for 2 seconds, the charger will start working.

# WORKING INTERFACE

General

Battery type and cell count

Alternate Show

Work Mode(short form)

CHG Charge

DSC Discharge

C-D/D-C Cycle

Work Finished

Show alternated between battery type/cell count with FULL(END).

FULL

```
NiMH 0.4A 16.00V
CHG 058:38 4968
```

Status

Press ENTER to return

Press

STATUS

Data

```
Capacity Cut-off
ON 8000mAh
```

```
Safety Timer
ON 240Min
```

```
Ext.Temp Cut-off
80°C
```

```
Ext.Temp
30°C
```

```
Input Voltage
12.10V
```

```
NiMH Sensitivity
D-Peak 7mV
```

Current Battery Voltage

```
NiMH 5.00A 10.20V
CHG 038:38 2668
```

Timer

Capacity