

CellMeter 8 *User Guide and Manual*

Battery Voltage Capacity Checker / Balance Discharger / Servo Tester

1. INTRODUCTION

CellMeter 8 CellMeter 8 is a clever device that can show you the condition of your battery packs. It can be used with the most common battery types used for RC modeling, namely:

- LiIon (Lithium Ion)
- LiPo (Lithium Polymer)
- LiFe (Lithium Ferrite)
- NiCd (Nickel Cadmium)
- NiMH (Nickel Metal Hydrate)

Lithium battery types (Li-Po, Li-Ion, Li-Fe), without the need for additional power supply, CellMeter 8 can support 2S~8S. Test 1S lithium battery, you need to access more than 3S of nickel batteries or 5V UBEC to NiCd/MH port for CellMeter 8 to provide working power.

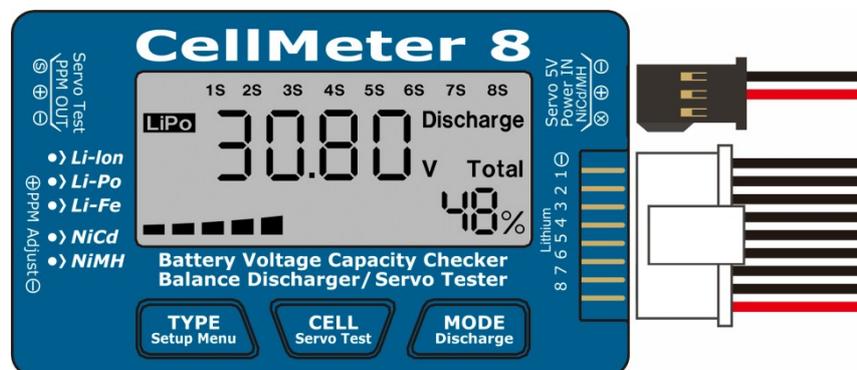
Nickel battery type (NiCd or NiMH), without the need for additional power supply of CellMeter 8 can support 4S~8S, such as the need to test less than 4S of nickel batteries, you need to access 2~8S lithium battery to the Lithium port for CellMeter 8 to provide working power.

2. CONNECTING A BATTERY PACK

CellMeter 8 there are two battery connection ports:

The connecting port of the lithium battery is 9 pin 2.54mm, Can be directly inserted into the 2.54mm of the lithium battery pack balance line plug. Connect the battery pack to the plug, The negative electrode of the balanced line plug is aligned with the CellMeter 8 Lithium port ⊖. (Negative ⊖ Location close to the NiCd/MH port.)

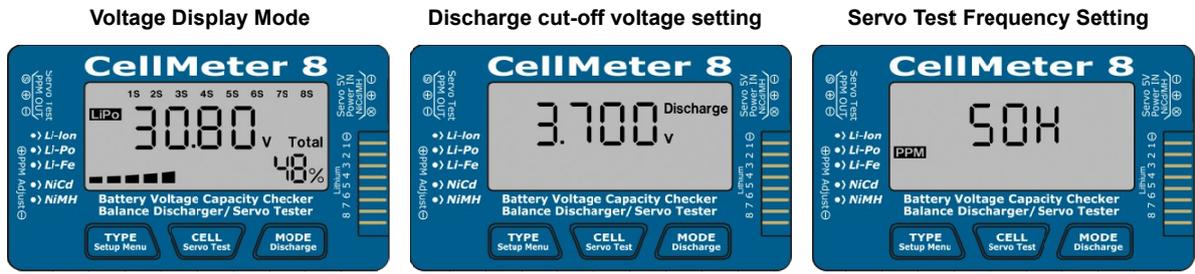
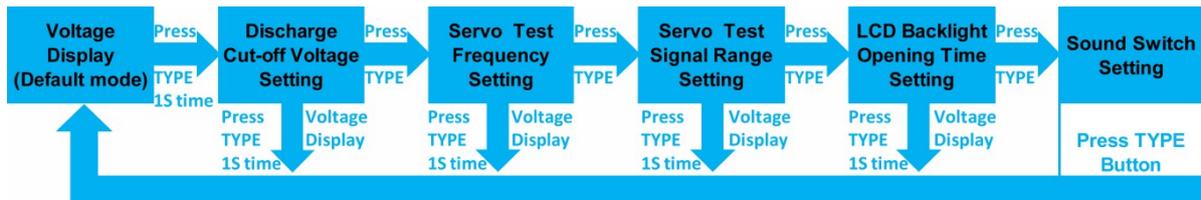
Nickel battery connection port specification for 3 pin 2.54mm spacing, Can be directly inserted into the spacing of the main line of 2.54mm nickel batteries. The main line of the nickel battery pack is generally 2 pin size, The negative electrode is aligned with the top of the 3 pin interface when connecting the plug ⊖, The positive electrode should be aligned with the 3 pin interface ⊕.



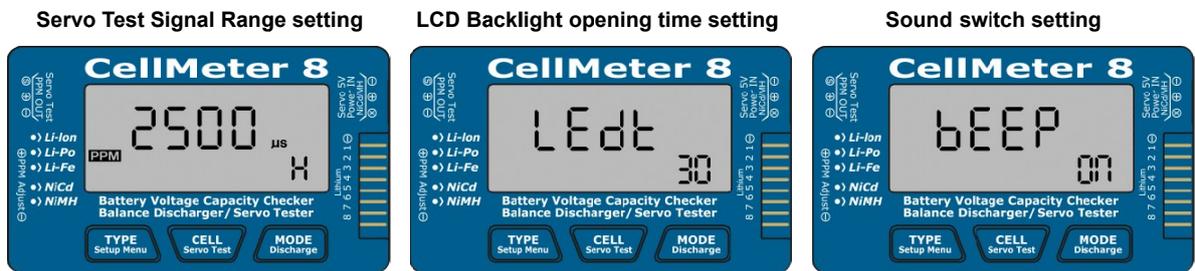
Lithium battery and Nickel battery Connection Diagram
(Can simultaneously connect Lithium battery and Nickel battery)

3. PARAMETERS SETTING

CellMeter 8 Connect the lithium battery or nickel battery in the working state, Press (press to button 1S above) Menu Setup button, Enter parameter setting mode. Parameter setting mode, Short press Menu Setup button is to enter the next parameter settings, Long press is out of the parameter setting mode, Return to battery detection mode. Parameter setting mode Short press CELL key to reduce the parameters, Short press MODE key to increase the parameter. Discharge end voltage parameter setting state, Long press CELL button to quickly reduce, Long press MODE button for the rapid increase.



Discharge cut-off voltage setting range:2.000~4.200V
 Servo Test Frequency Setting:50Hz,60Hz,100Hz,125Hz,200Hz,250Hz,300Hz



Servo Test Signal Range setting:500~2500us,1000~2000us
 LCD Backlight opening time setting:off,10s~60s,on
 Sound switch setting:on,off

4. LITHIUM BATTERY DETECTION MODE

Will need to detect the lithium battery balance line plug correctly inserted into the CellMeter 8 of the 9 pin Lithium port,CellMeter 8 starting work after obtaining power from a lithium battery,LCD screen will display the number of lithium batteries,Battery total voltage,Battery type and battery remaining capacity as a percentage of the remaining capacity of the strip pattern.Because each type of lithium battery has different rated voltage and its relative power consumption,Therefore,the correct choice of the type of lithium battery,The CellMeter 8 screen displays the percentage of remaining battery power and the strip pattern that represents the rest of the battery to be accurate..

Short press TYPE key in the detection mode of lithium battery,Under the condition of intelligent judgment,Can be switched between three types of batteries(Li-Po, Li-Ion, Li-Fe).

CellMeter 8 has a smart battery type:The battery voltage in any of the lithium battery pack was detected higher than 3.6V,Will not switch to Li-Fe type;The battery voltage in any of the lithium battery pack was detected higher than 4.1V,Will not switch to Li-Ion type.

Short press CELL key in the detection mode of lithium battery,LCD screen display will switch from the total voltage of the battery to the battery voltage display mode,Press a CELL button to switch to the next battery voltage display,1S-2S...8S-1S-2S....Loop cell voltage display.The display mode of the short press MODE key will be switched to the total voltage of the battery and the total node number of the battery in each cell voltage display mode.

(Assuming that the number of lithium battery nodes is detected is n,So will only show 1S~nS,CellMeter 8 will show the number of nodes and voltage detected by the battery..)

Short press MODE key in the detection mode of lithium battery,LCD screen displays the highest voltage value of the voltage at the top of the screen and the power of the power core which is shown at the top of the screen.Press MODE button,The LCD screen displays the voltage values of the lowest voltage and the power of the power core which is shown at the top of the screen.Press MODE button,LCD screen will show the highest voltage of the voltage value of the voltage of the core of the voltage difference between the minimum voltage and the voltage difference,and in the top of the screen to display the highest voltage and the lowest voltage.

5. NICKEL BATTERY DETECTION MODE

Will need to detect the nickel battery(NiCd and NiMH)Positive and negative pole plug correctly inserted into CellMeter 8 NiCd/MH 3pin port,When there is no lithium battery connected to the Lithium port of CellMeter 8,CellMeter 8 starting work after obtaining power from nickel battery,LCD screen will display the number of nickel battery,battery total voltage,battery type and battery remaining capacity as a percentage of the remaining capacity of the strip pattern.

(If there is a lithium battery connected to CellMeter 8 to provide power supply,Need a short press TYPE button to switch to the nickel battery detection mode.)

Detection of the main line and positive and negative pole of the battery for the detection of nickel battery,No lithium battery detection using a balanced line plug detection so detailed,Cannot display the voltage value of the battery cell.Nickel battery detection mode will only show battery cell,battery total voltage,battery type and battery remaining capacity as a percentage of the remaining capacity of the strip pattern.Because the two types of nickel batteries have different rated voltage and their relative power relationship(NiCd andNiMH),Therefore,the correct choice of nickel battery type is required,The CellMeter 8 screen displays the percentage of remaining battery power and the strip pattern that represents the rest of the battery to be accurate.Correct selection of the number of nodes in the nickel battery,LCD screen to correctly display the remaining battery power as well as the remaining capacity of the strip pattern.

Nickel battery detection mode,Short press TYPE button to cycle between the battery type NiCd and NiMH.Short press CELL key can be in the CellMeter 8 intelligent judgment range manual precision nickel batteries,In order to achieve the LCD screen to display the remaining battery power as well as the remaining capacity of the bar pattern.

6. **LITHIUM BATTERY BALANCE DISCHARGE / FAST DISCHARGE** **(Fast discharge module need to be selected independently 50W or 150W)** **Balance Discharge**

Will need to balance the discharge of the lithium battery balance line plug correctly inserted into the CellMeter 8 of the 9 pin Lithium port,CellMeter 8 starting work after obtaining a working power supply from a lithium battery,LCD screen will display the total voltage and other parameters of the lithium battery.Press MODE (Discharge) button,CellMeter 8 to enter the balanced discharge mode,The discharge of the lithium battery in connection with the discharge cut-off voltage(Default value:3.700V).

The voltage balance of all the battery core of the lithium battery to be connected to the user to set the discharge cut-off voltage parameter,Such as the voltage of a power saving core of a lithium battery is less than the discharge cut-off voltage,Press MODE (Discharge) button,Products will not be switched to a balance discharge mode and there is a BB sound,Error setting of the user's discharge end voltage.

After the completion of the balance of the CellMeter 8 will complete the prompt tone has been BB sound prompts the user,Please pull out the lithium battery which has been completed by the CellMeter 8 port.If the lithium battery after the completion of the discharge of a long time to connect to the CellMeter8 port,Because the system power source is from the 1S and the 2S core of the lithium battery,So the standby power consumption of the system will lead to the 1S and the 2S of the lithium battery,The power of the lithium battery will not be in balance.

Short press MODE (Discharge) button under the balance discharge mode,enter balance mode,The balance mode is the standard voltage value of the energy saving core with the lowest voltage,Discharge of electric cell with high standard voltage,Until all the voltage and standard voltage of the electric cell are equivalent to the completion of the balance function,After the completion of the balance of the CellMeter 8 will be completed with the prompt sound has been BB prompt users,Please pull out of the CellMeter8 port in time to complete the balance of the lithium battery.If the lithium battery is balanced after the completion of the long connection on the CellMeter8 port,Because the system power source is from the 1S and the 2S core of the lithium battery,So the standby power consumption of the system will lead to the 1S and the 2S of the lithium battery,The power of the lithium battery will not be in balance.

Fast Discharge(50W or 150W)

The signal line of the fast discharge module is connected to the Test PPM OUT Servo port on the left corner of the CellMeter8,Correct insertion of the positive and negative poles and the direction of the signal to the port.And plug the lithium battery into the 9 pin Lithium port of CellMeter 8,The T head of the main power supply cord of the lithium battery is connected to the T head of the fast discharge module,Press MODE (Discharge) button,CellMeter 8 to enter a fast balance discharge mode,Its parameter setting and function operation with balanced discharge mode.

7. SERVO / ESC TEST MODE

Servo 5V Power IN(NiCd/MH)port connection power supply 5~6V,You can use NiCd/MH 4S battery pack or 5V UBEC module power supply.After power supply connection,CellMeter 8 start working,The use of power supply is the nickel battery port,Therefore,the screen is a nickel battery detection mode,At this point,the voltage of the battery is confirmed by the screen to confirm whether the matching of the working voltage parameter with the actuator,If no match is required to replace the power supply to the CellMeter8 with the power supply of the steering gear.Such as the supply voltage and the working voltage of the steering gear is not matched,It is likely to burn the steering gear.Power supply voltage to confirm correct,Connect the 3 hole plug of the steering gear to the Test PPM OUT Servo port on the left corner of the CellMeter8,Correct insertion of the positive and negative poles and the direction of the signal to the port.

Long press CELL (Test Servo) button to enter the steering gear test mode,The manual test signal is the default for the servo test mode,That is,by the user to manually adjust the left of the CellMeter8 Adjust PPM knob to change the duty cycle of the PPM signal to achieve the manual test of the servo function.The adjustment range is 500~2500uS or 1000~2000uS,which is determined by the parameters of the servo testing range.

CELL (Test Servo) or MODE (Discharge) button is short in the manual mode,Enter into the automatic signal test mode,In this mode the PPM signal is accounted for by the automatic small to large,Changes in the large to small cycles,By the user to manually adjust the left of the CellMeter8 Adjust PPM knob to change the PPM signal to change the speed of the air ratio,Functions of automatic test and test for aging.

Short press CELL (Test Servo) or MODE (Discharge) button in the automatic signal test mode,Test mode to enter the midpoint signal,The duty cycle of the PPM signal is 1500uS.

ESC TEST MODE

Connect the 3 hole plug of the Servo to the Test PPM OUT ESC port on the left corner of the CellMeter8,Correct insertion of the positive and negative poles and the direction of the signal to the port.(CellMeter8 power supply works by the electronic speed regulator for the internal BEC supply 5V power supply,No connection to other power supply.)Long press CELL (Test Servo) button to enter the PPM signal output mode,PPM signal output duty cycle adjustment method and servo test mode PPM signal adjustment method.

8. FUNCTIONAL INTERFACE DISPLAY GRAPH

