



CHARGER

## Operating Instructions

# CHARGER BM12 v1.0

Microprocessor controlled high performance **Monitor / Reader / Saver / Watcher** for 2S~12S LiPo & LiFe battery packs.



## Chargery Power Co., Ltd.

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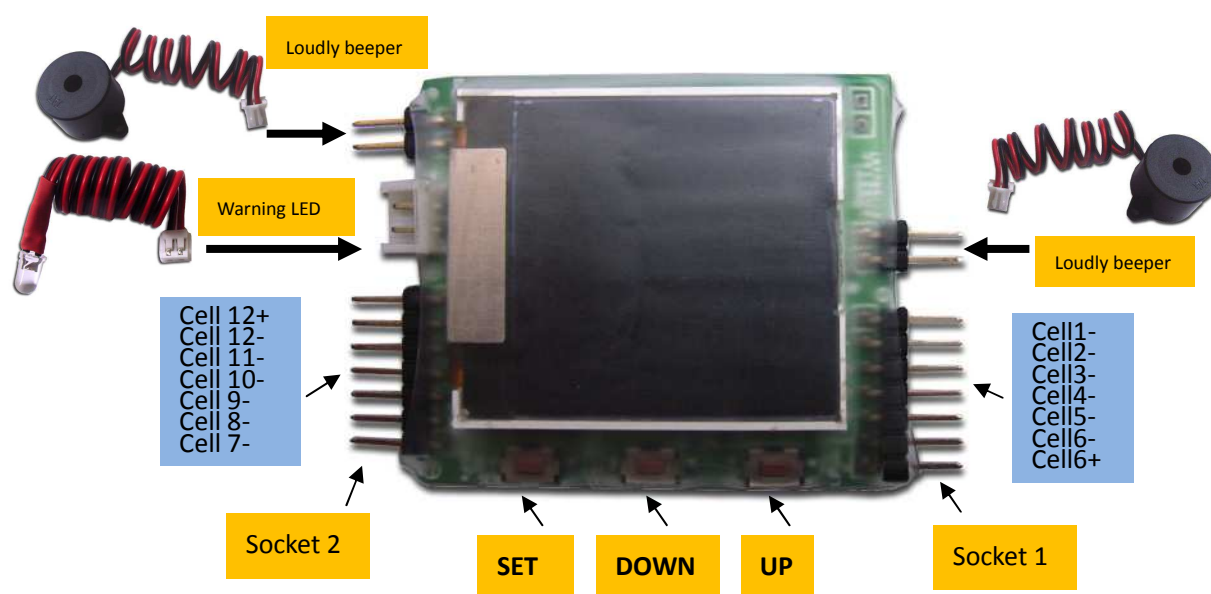
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Chargery Battery Saver BM12 is the first up to 12S LiPo & LiFe battery saver with TFT color LCD applied to helicopter; High light red LED and two loud beepers (95Db) make sure your flight safety. The warning voltage, delay time and warning time can be setup by pressing easily the button.

Large TFT colorful LCD can display each cell voltage in 2S-12S LiPo battery pack, total voltage. During battery discharge, it can sound warning or LED warning while any cell voltage under setup value, prevent any cell from over discharged. Even you can check the lowest cell voltage after your helicopter land off, so you can find the worst performance cell---the lowest voltage cell.

Connect battery to BM12 when you charge, the unit will alarm when any cell voltage over 4.22V, to prevent the cell over charged, and display all cell voltage.



### New features

- BM12 will record the lowest voltage of each cell including total pack voltage during flight, after your helicopter land off, you can press **UP** button to display these voltage (cell voltage will not change, the cell number background color change, and the lowest voltage displayed in **RED** text), and then press **DOWN** display real voltage.
- Continuously display 2 minutes later, the BM12 will stop display automatically for saving battery energy, you can press any button resume display.
- At any time, you can press **SET** button shortly turn off the display and press any key resume.
- While alarming, press **SET** button shortly turn off alarm at any time.

### Operating guideline

1. Connect the battery to BM12, keep the polarity correct. The detailed connection diagram is as the following figure 1 and figure 2.
2. The Device will initialize the beeper and all LEDs, beeper sounds once time, warning LED flash once time.
3. 2 seconds later, the BS12 will display the cell count, total voltage on the top line, and warning voltage, delay time, warning time on the bottom line from left to right. The middle area, each cell voltage is displayed. When any cell voltage reach the lowest value, it is displayed in **RED** text, the

lowest voltage will be updated with the value changes.

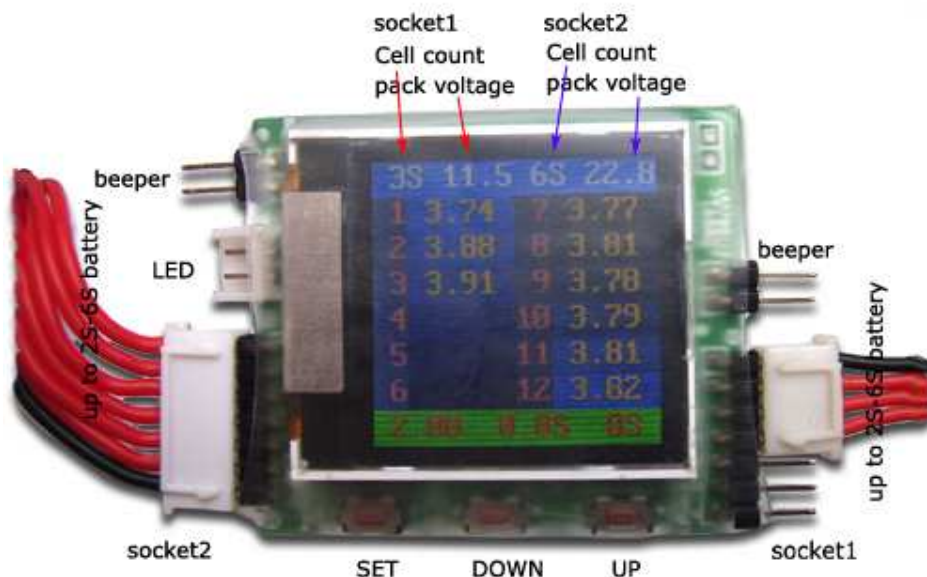
In flight, BM12 can alarm loudly and a large WANING RED LED flash when any cell voltage under setup value.

Within the warning time, the device will beep loudly and the large red LED will flash till the cell voltage under warning voltage again, the saver will start a new warning time.

If the cell voltage is still under warning voltage, the saver will beep and flash repeat for the warning time.

At any time press the **SET** button stopping warning.

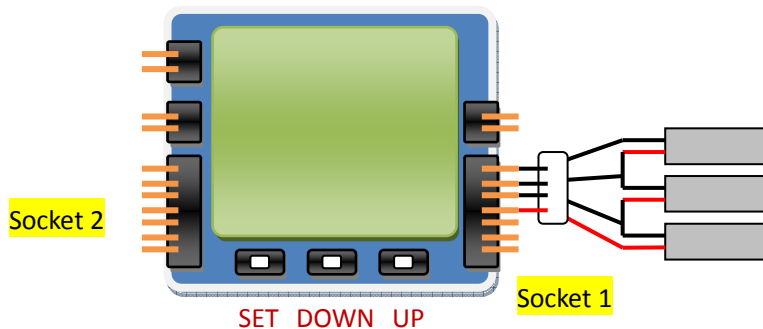
The unit includes reverse polarity detection, and 2.54mm pin distance balance connector for all kinds of battery.



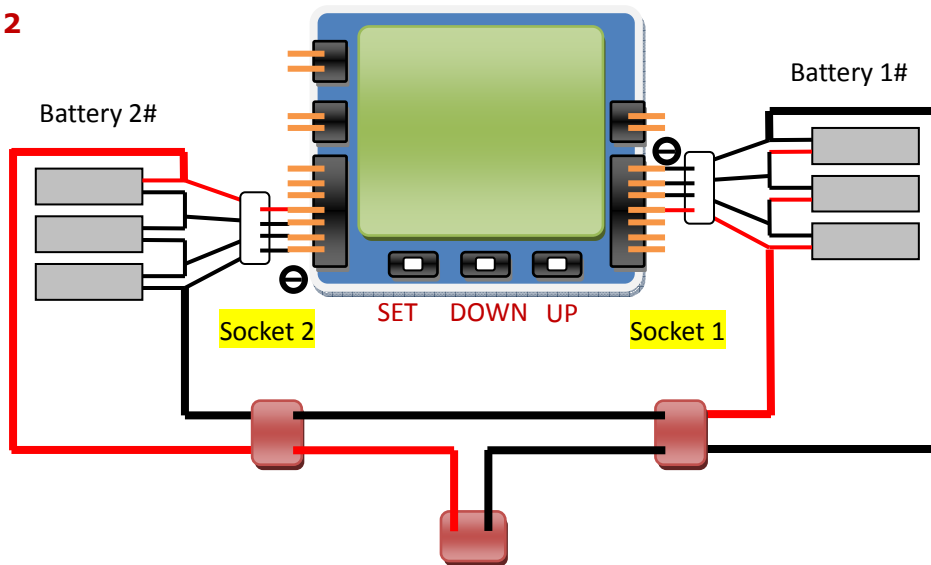
**Connection Diagram**

1. One 2S-6S battery can plug into the socket1 (right socket of BM12) directly, 3S connections as following.

**Figure 1**



2. For two battery packs, connect them in series first and then plug battery 1# into socket 1, and battery 2# into socket 2 separately. Take 2 3s battery sample as following:

**Figure 2**


Socket1 and socket2 can deal up to 6S battery independently, so you can connect any combo battery pack on condition that the total cell count less than 12, such as 6S+6S, 2S+6S, 5S+6S, 6S+3S, 6S+5S and so on.

### Specifications:

- Battery range: 2S-12S LiPo & LiFe battery pack
- Over charge Alarm cell voltage: > **4.22V** per cell
- Over discharge warning cell voltage: **2.00~4.00V** step 0.05V, default 3.6V
- Delay time when start to warn: 0S~20S, step 0.5 second, default 2S
- Warning time range: 1S~60S, step 1 second, default 2S
- Accurate scope of the warning voltage: -20mV/+20mV
- Pins distance: 2.54mm
- Size: 50\*43\*6 ( L\*W\*T, mm)
- Weight: 20g
- Warning LED: 11000mCd, @ 2.0V, 20mA
- Two Warning beepers: 95dB @ 12V, 25mA per beeper
- Package: transparent heat shrink tube

### Program setup

Before flight, you can set up warning voltage, delay time and warning time.

1. Connect 2S (LiPo 7.4V, LiFe 6.4V) or under 6S battery to the socket 1.
2. Press **SET** button for 3 seconds, the first number flash on the bottom line, and press **UP** or **DOWN** button change the value, the range is **2.00~4.00V** step 0.05V, default 3.00V.
3. Press **SET** shortly will continue to setup delay time, or Press **SET** for 3 seconds confirm the change. *Delay time means the waiting time from cell voltage reach set up value to start alarming.*
4. When the second number on the bottom line flash, press **UP** or **DOWN** button setup the delay time, the range is 0S~20S, step 0.5 second, default 2.0S, Press **SET** shortly continue to setup warning time, or Press **SET** for 3 seconds confirm the change.
5. When the third number on the bottom line flash, press **UP** or **DOWN** button setup the warning time, the range is 1S~60S, step 1 second, default 2S, press SET for 3 seconds confirm all changes.
6. When finish setup, the unit will remember till next change.



### Warranty and Service

Chargery Power Co., Ltd. as manufacture of R/C model power warrants its charger and battery pack to be free of defects in material and workmanship. This warranty is effective for 12 months from date of purchase. If within the warranty period the customer is not satisfied with the products performance resulting from a manufacturing defect, the accessory will be replaced or repaired.

Your selling dealer is your first point of contact for warranty issues. Return postage costs are the responsibility of the user in all cases. Please submit copy of original receipt with the return.

Damage due to physical shock (dropping on the floor, etc.), inappropriate power supply (unstable output voltage and insufficient power, etc.), water, moisture, and humidity are specifically NOT covered by warranty.



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