Battery Management System (BMS)

BMS16D Version 3 Instructions

Enginer, Inc.

Enginer, Inc, Shanghai. December 2010 Edition

Warning:

1. **To avoid battery failure, system must be recharged once power is fully depleted;**
2. **This BMS should be switched off if system is not to be used for over one week.**

Outlook

Monitor Screen:

Page1 Shows current SOC (State of Charge) and EV distance estimations;
Page2 Demonstrates system Input Voltage (Vi), Output Voltage (Vo), Input Current (Ii) and Output Current (Io) flowing into stock (OEM) batteries;
Page3 Displays battery temperature (Not to be used on this version);
Page4 Shows Total (T), Average (A), Highest (H) and Lowest (L) Voltages;
Page5 Displays voltages on Nos. 1, 2, 3 and 4 cells;
Page6 Displays voltages on Nos. 5, 6, 7 and 8 cells;
Page7 Displays voltages on Nos. 9, 10, 11 and 12 cells;
Page8 Displays voltages on Nos. 13, 14, 15 and 16 cells.

Balancing: Whenever voltage on a single cell drops to 0.1V lower than average single cell voltage, BMS immediately starts balancing up those cells that are 0.05V lower than average single cell voltage, with a “+” sign indication next to the voltage demonstration on monitor screen.

Buttons:

Buttons on right hand side of the screen: “ 》” Turns Page Down, “《 ” Turns Page Up
Button on left hand side of the screen: Display screen restart.

LED:

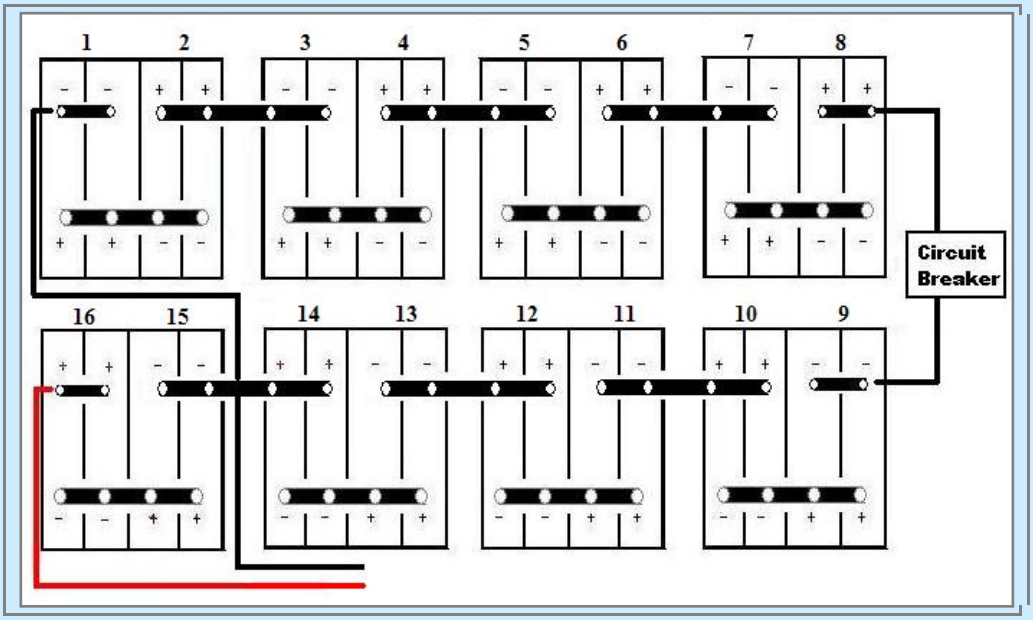
Flashing Red LED indicates at least one cell at low voltage (<2.5V);
Red LED On indicates at least one cell is over-charged (>3.8V);
Green LED: BMS power on.

SD card: On right hand side of the monitor; can be removed and connected to a computer via the provided SD USB Reader to retrieve and view constant system / battery data on MS Excell program

Wiring and Mounting:

1、 Connection on Mottcell / Thundersky Batteries

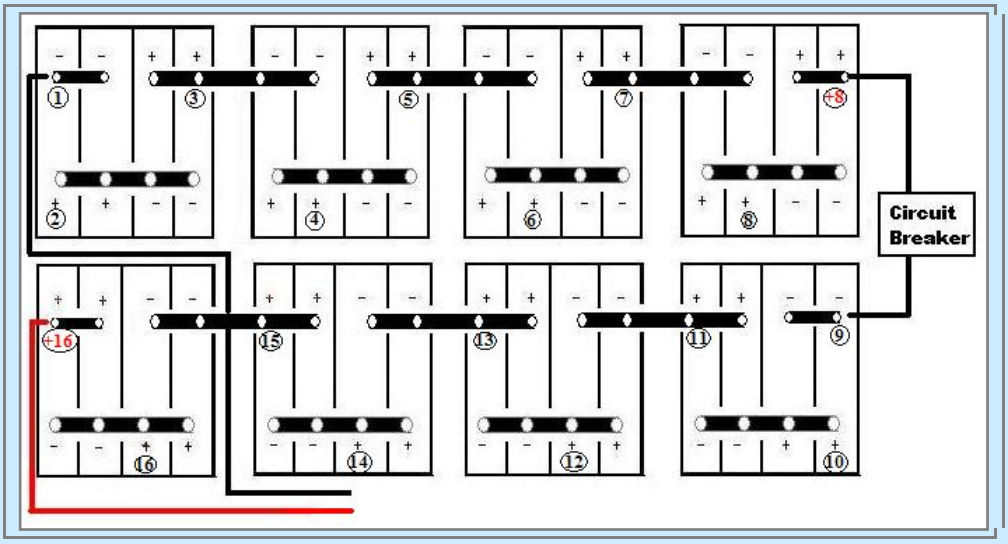
Two buddy cells parallel inter-connected before multiple connection to the next buddy (BMS displays voltages corresponding the numbers shown below)



Connecting BMS harness wires

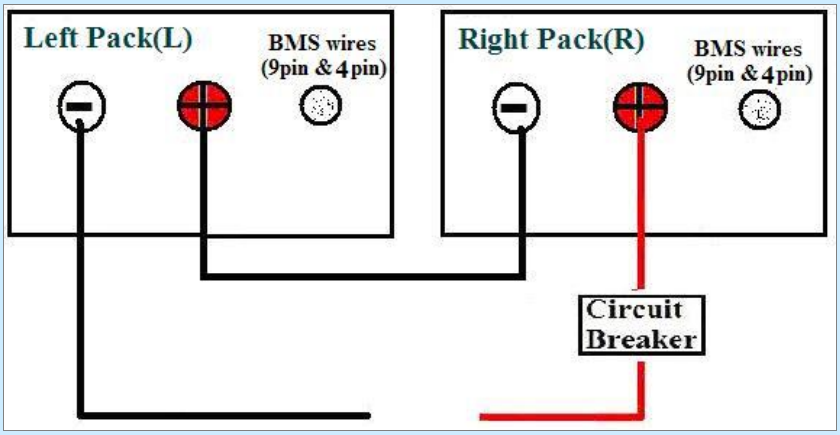
Note: Each wire is marked with numbers; Please connect all wires to their right positions properly.

Port L to connect front row cells (1-8);
Port R to connect back row cells (9-16).



2、 Connection on Real Force Electric (RFE) Battery

The 9 PIN wires transfer single cell voltage data;
The 4 PIN wires transfer battery temperature (Not to be used on this version and please do remain these discoonected between batteries and BMS).



3、 Connecting BMS to System

Warning: Please make sure BMS power switch at Off position before your connection attempt!

1 **Mounting BMS on the System.**

② **Connecting Mottcell Batteries**：Plug No.1-8 cell voltage wire into a socket marked with “L” on BMS; Plug No.9-16 cell voltage wire into the other socket marked with “R” on BMS.

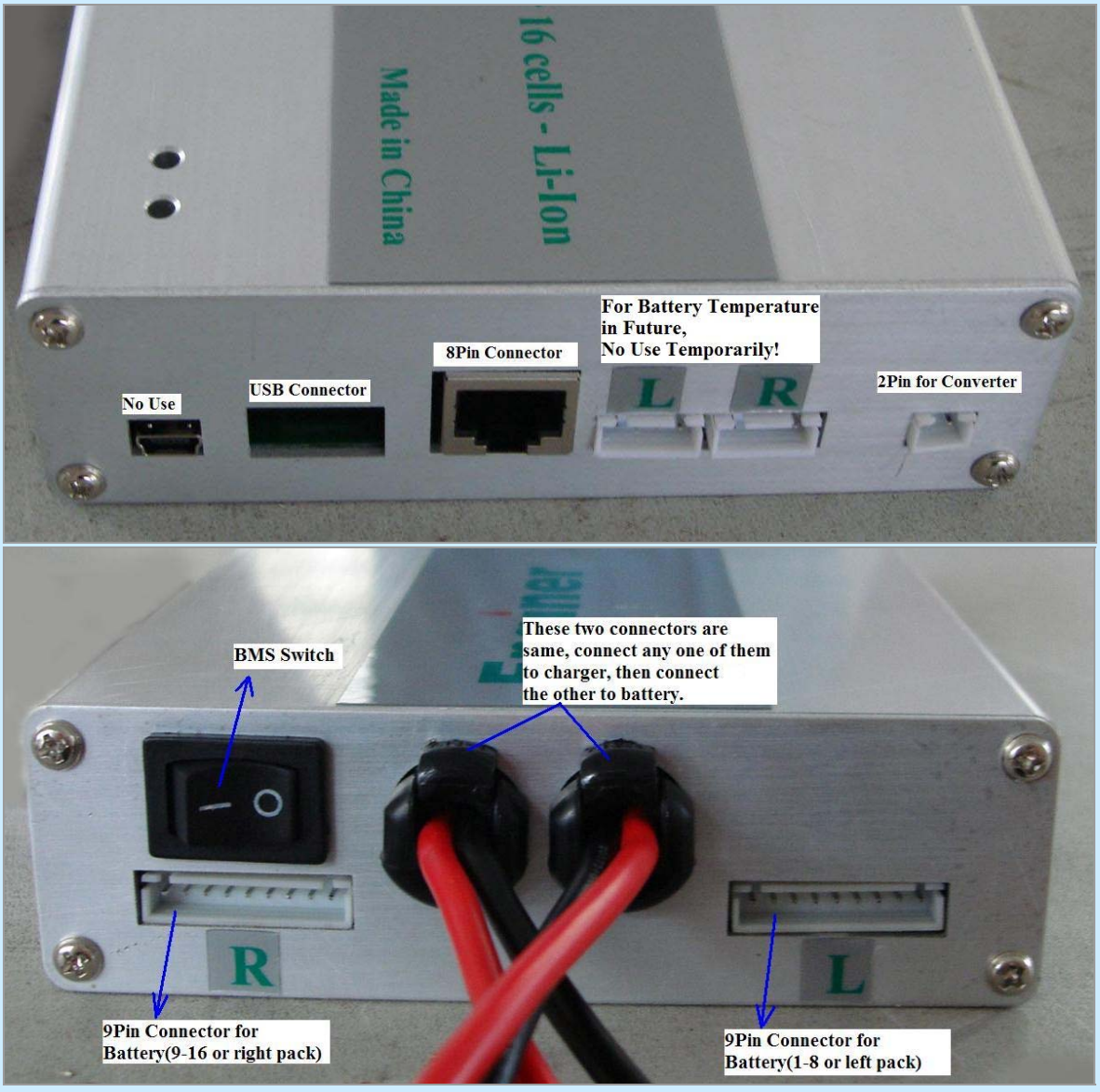
Connecting RFE Batteries: Plug the Left battery pack’s 9PIN wire into a socket marked with “L” on BMS; Plug the Right battery pack’s 9PIN wire into the other socket marked with “R”.

Warning: DO NOT reverse two sockets to avoid battery damage.

③ **Connecting 5000W Converter:** 8 pin cable, 2 combined wires connecting BMS.

Connecting 3000W Converter: 8 pin cable connecting BMS. No cut-off signal in this version of converter.

④ **Connecting Charger:** Insert any one of the Anderson plugs from BMS into the Charger output and then plug the other Anderson into batteries.




Enginer
Battery System Monitor
Re-startup the Display Screen
USB Connector


Battery System Monitor
Enginer
Page Up
SD Card
Page Down