Muller Energy JBD BMS Instructions

Scope

This installation guide shows the steps required to connect the custom Muller Energy 16s 250A JBD Smart BMS.

Description and Model

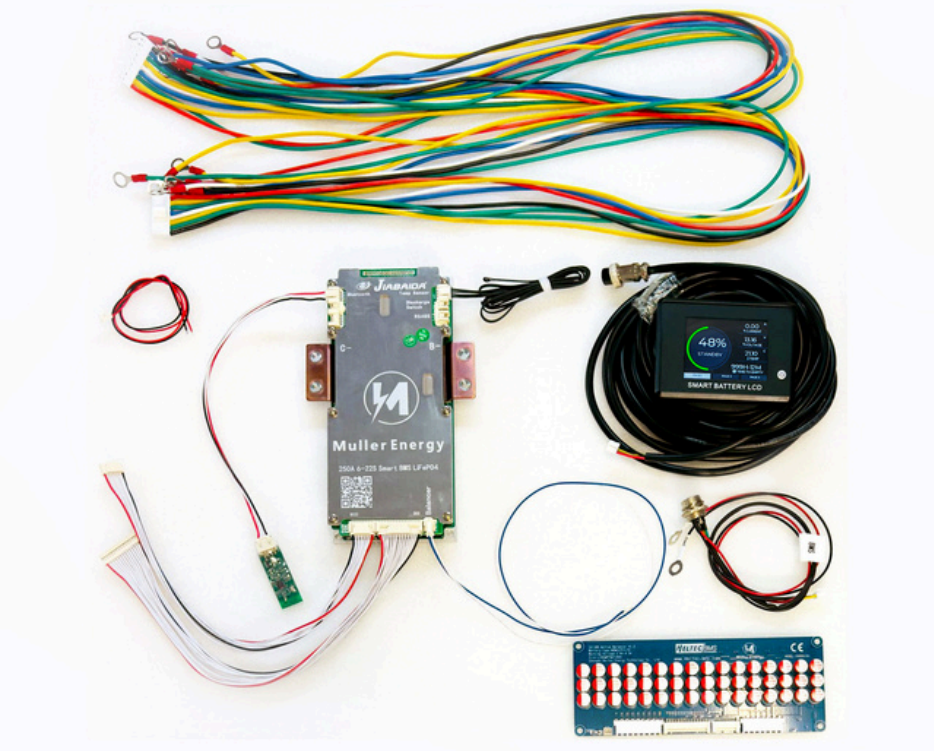
Description：JIABAIDA 16s Smart BMS 250A

This 16S Smart BMS with Bluetooth for 12V LiFePO4 batteries is only available at Muller Energy!

Package: BMS & Bluetooth & Balance Wires & Touchscreen & 5A Heltec Active Balancer

- Continuous Discharge Current 250A
- Continuous Charge Current 250A
- Passive Balance Current 150mA
- RS485 connection
- Unlimited Parallel Connections

1. Appearance



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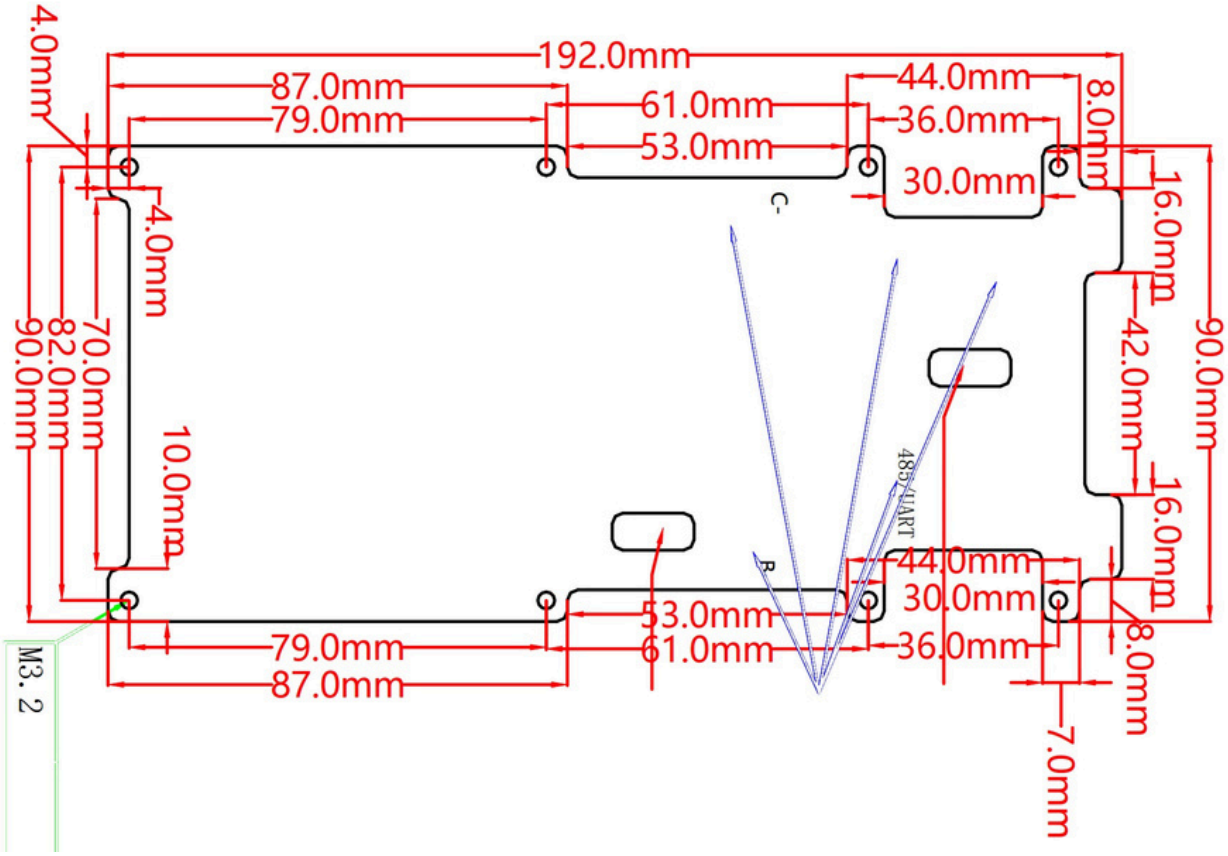
2. BMS Drawings



3. Installation

Select quality cells and cell separators. Muller Energy 280Ah EVE cells can be found here.

1. Set up cells in a 16s configuration, ensuring alternating the direction of the terminals of the cells.

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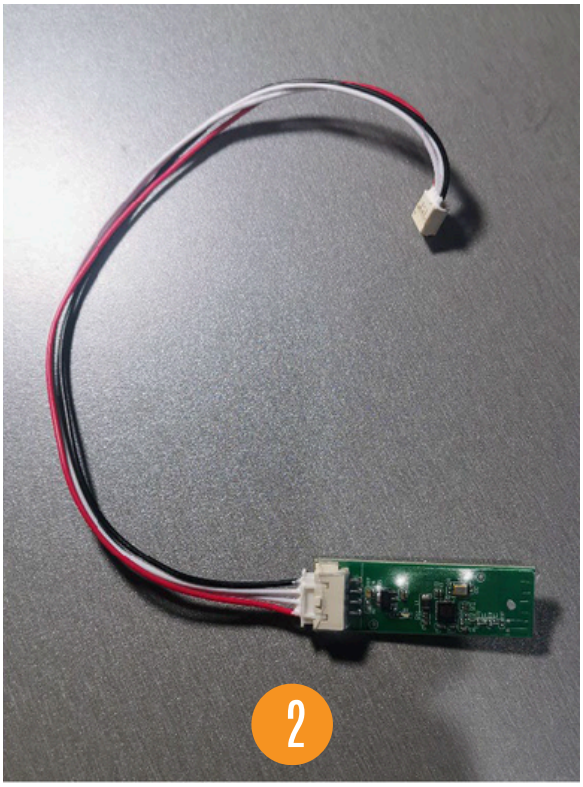
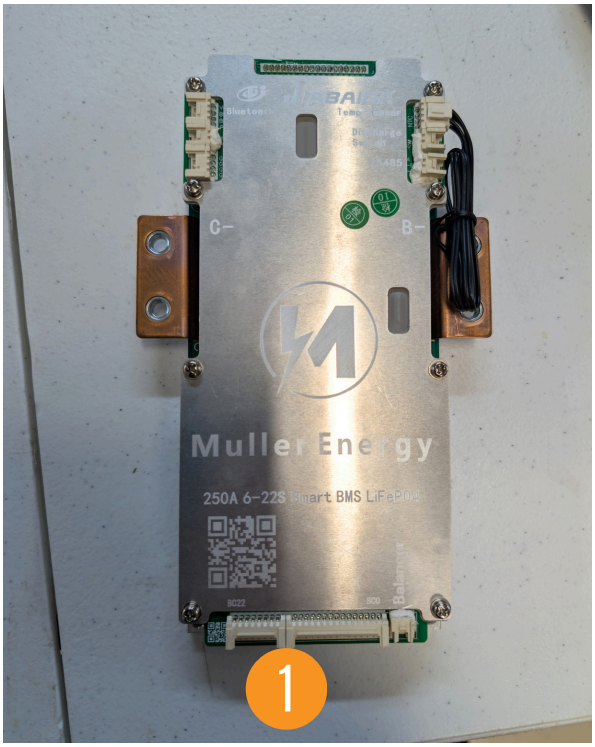
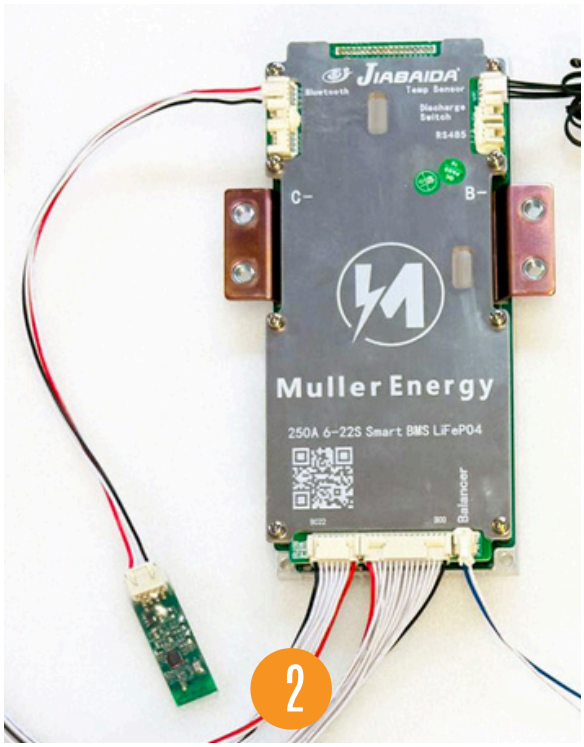
2. Connect Bluetooth cable to Bluetooth dongle



3. Insert Bluetooth dongle into the port marked “Bluetooth”.





Optional: Connect the connector with the two open ended cables to the socket called "Discharge Switch"

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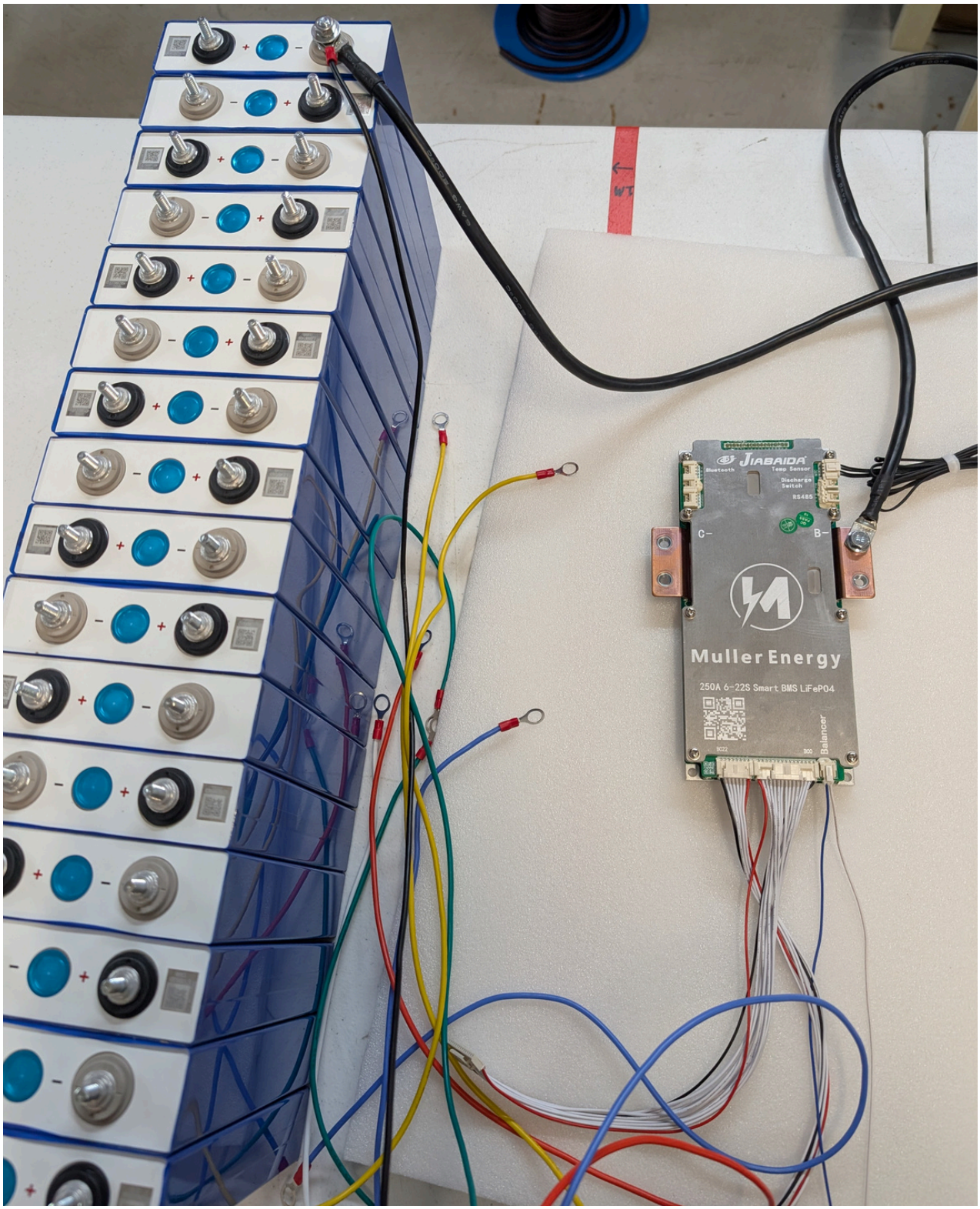
4. Connect the negative power cable (not included) to B- on the BMS.Then connect the power cable to the most negative terminal on your battery. Also connect the black cable from the 9 pin connector to the same terminal.Then put a washer and nut on it. Don't tighten this up, as we will take it off again.



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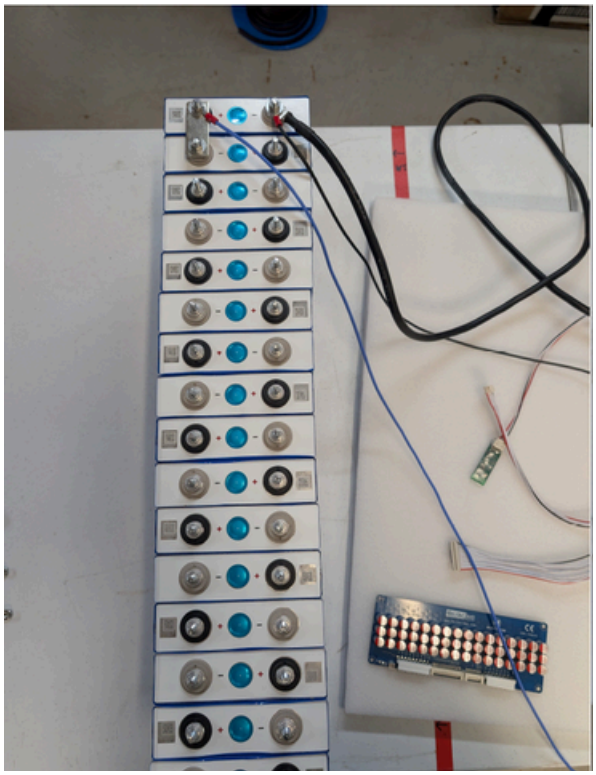
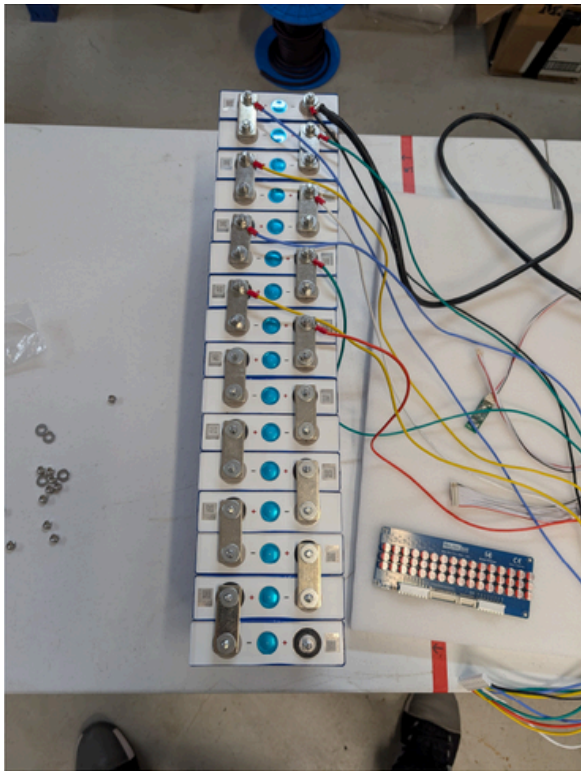
5. Then use a bus bar and two washers to connect the next cell. Use washers on the bus bar and then place the ring terminal of the balance wire on top before tightening down the nuts.



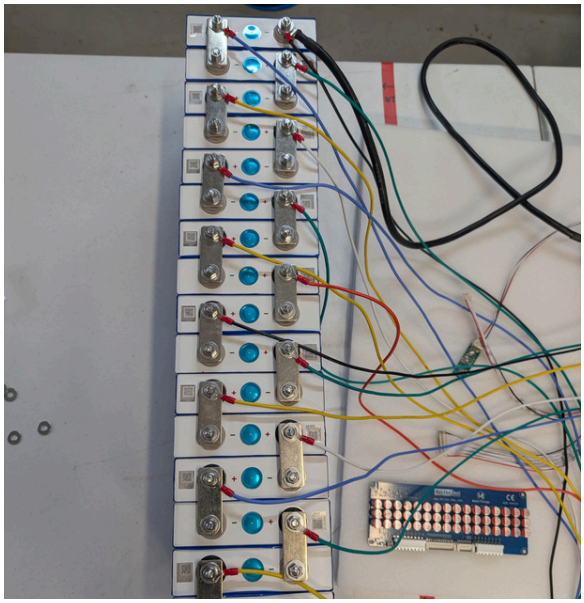


Note: Ensure that you use the correct order as getting this wrong could result in damaging the balancer and/or the BMS.

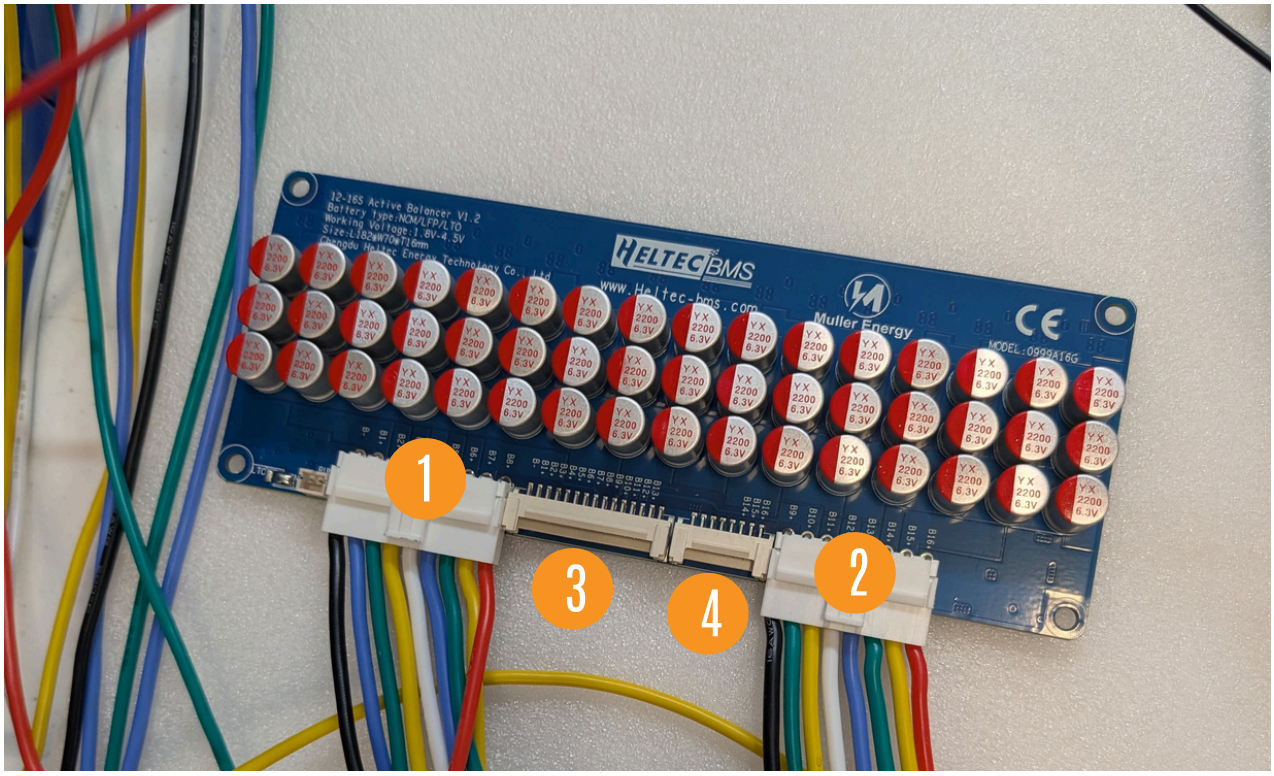
The order should be black, blue, green, yellow, white, blue, green, yellow, red. (in these pictures, the balance wires are connected to the positive on one of the cells, however the negative on the next cell on the same bus bar could also be used.)

6. Take the 8 connector cable and repeat the same thing connecting them in order: Black, green, yellow, white, blue, green, yellow and red.

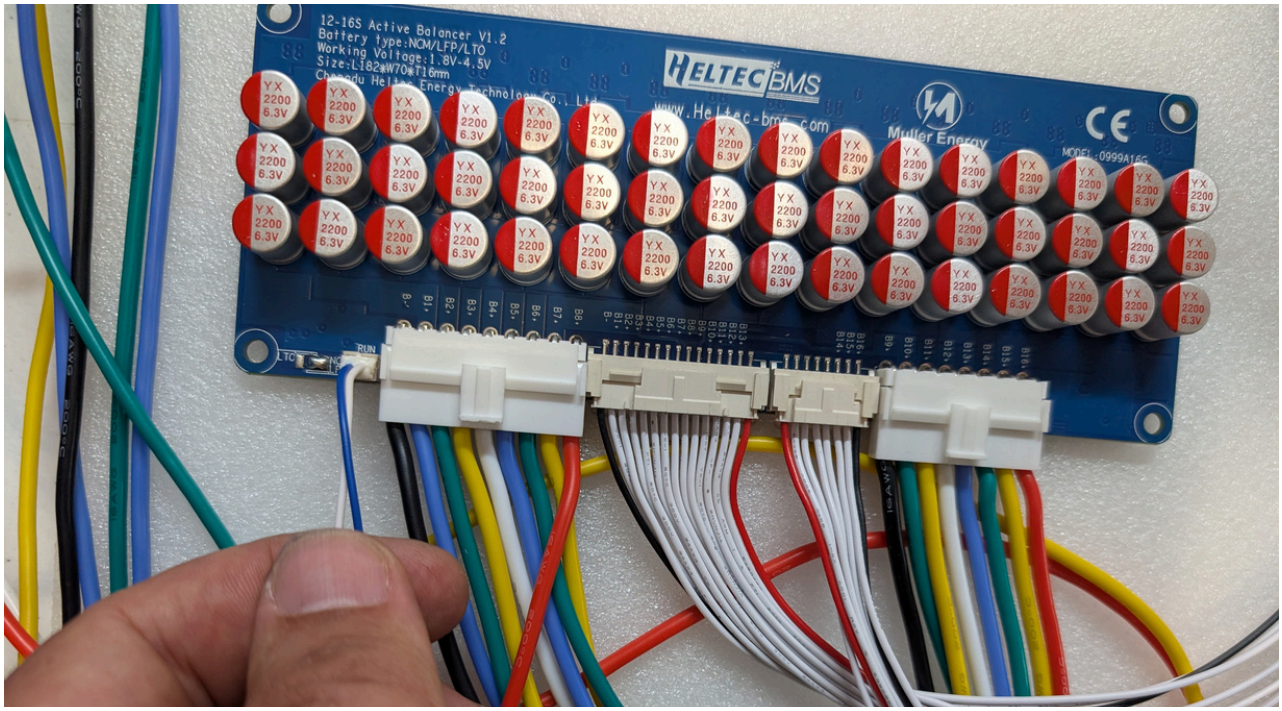
Note: You can tighten all the nuts, however only to the nut on the final red wire finger tight as it will come off again.



7. Connect the cables to the active balancer. The order here is very important. If you do it in the wrong order, the BMS will not be set to 16s and won't function properly (but it won't damage the BMS or the balancer).



8. Locate the balance wire. It will plug into the BMS where it says "Balancer" and in the 2 pin connector on the active balancer.



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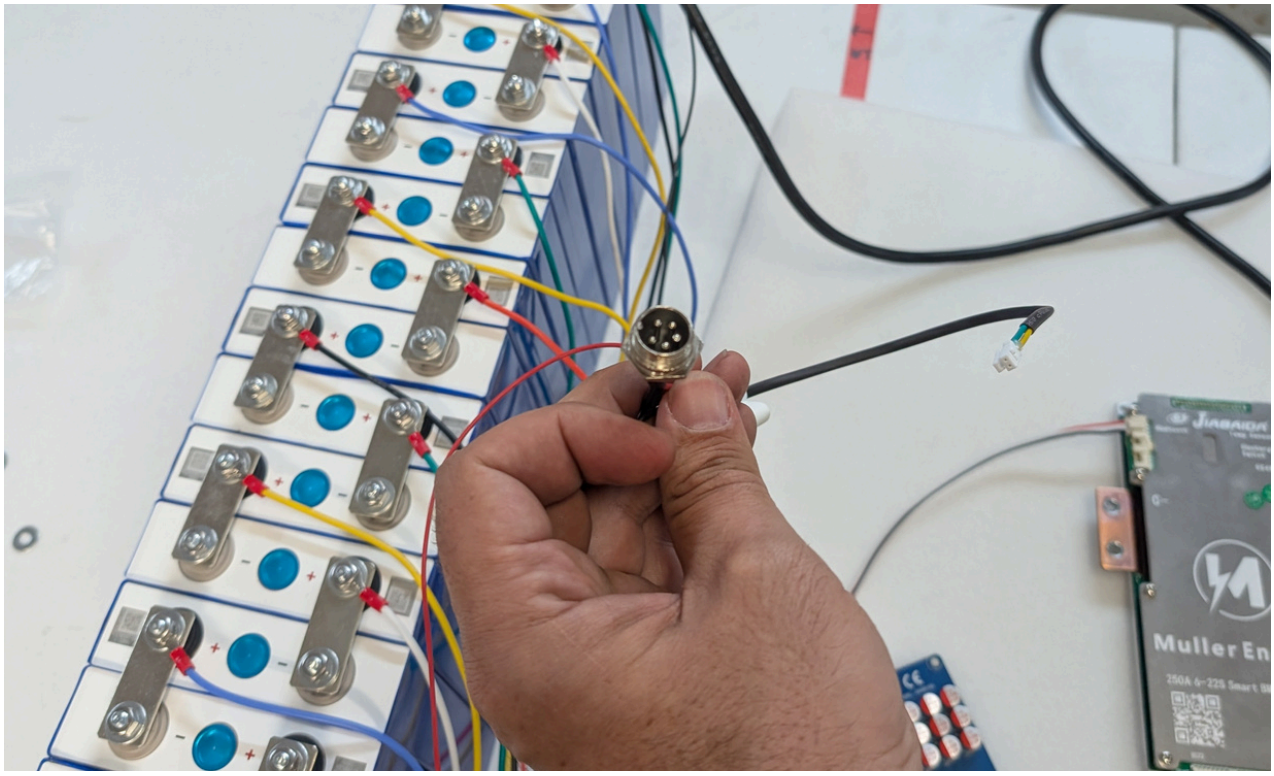
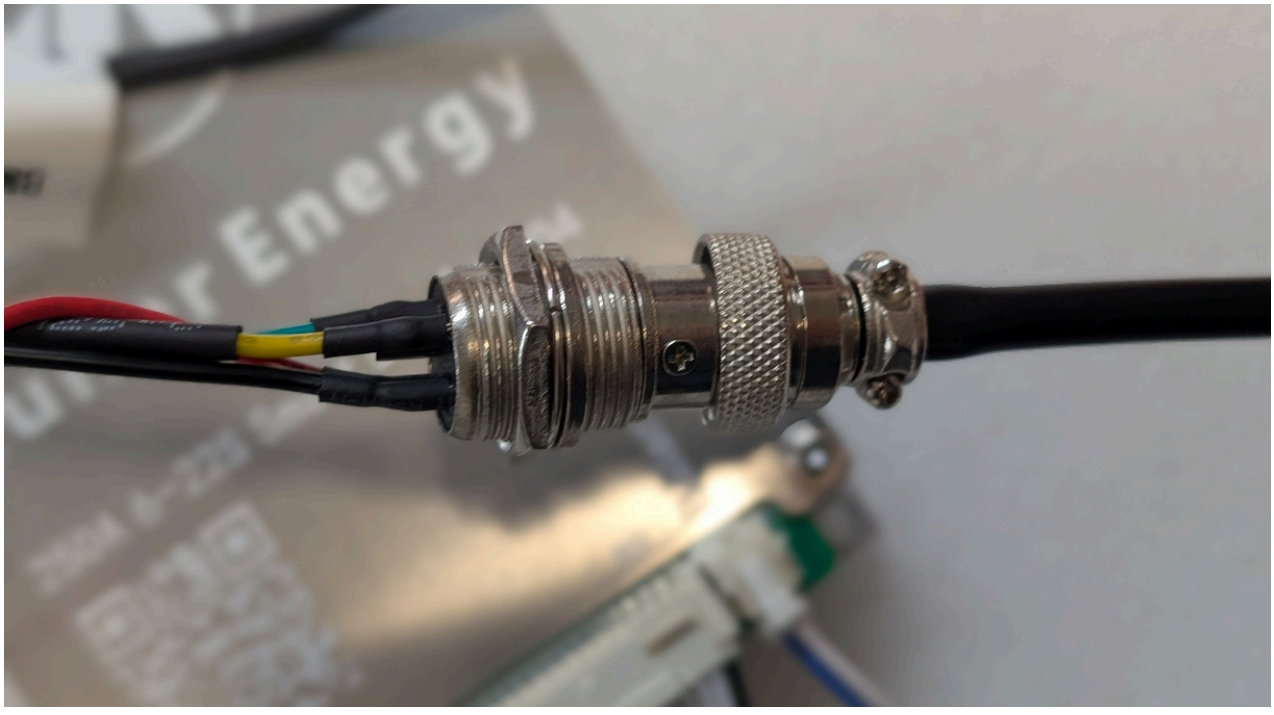
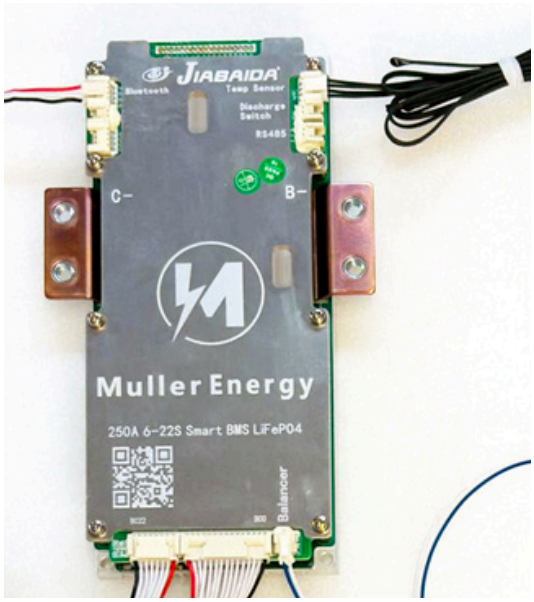
9. Take the 5 pin metal connector. This is the connector for the touchscreen, so if you're building a battery box, it should be in the wall of the case, so that the touchscreen can be plugged in without opening the case.



Then take the black cable on it and connect it to the main negative terminal. You can now tighten the nut. Do the same with the red cable. Then take the two pin connector and plug it into the BMS where it's labelled "RS485".



10. Connect the temperature sensors to the cells in an appropriate location. Sticky tape is for display purposes only. On an actual installation Kapton tape or silicone is recommended.



11. Connect the display cable to the back of the display.

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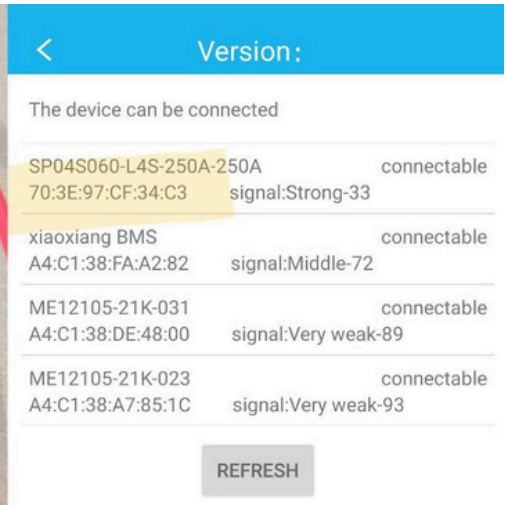
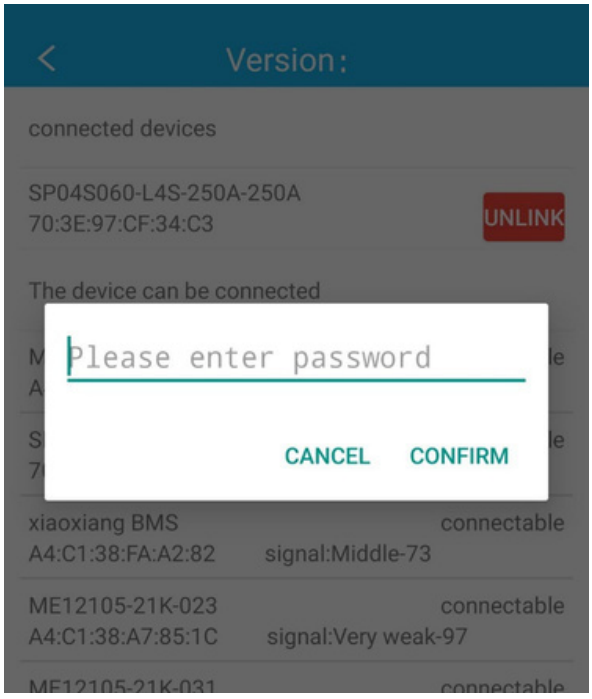
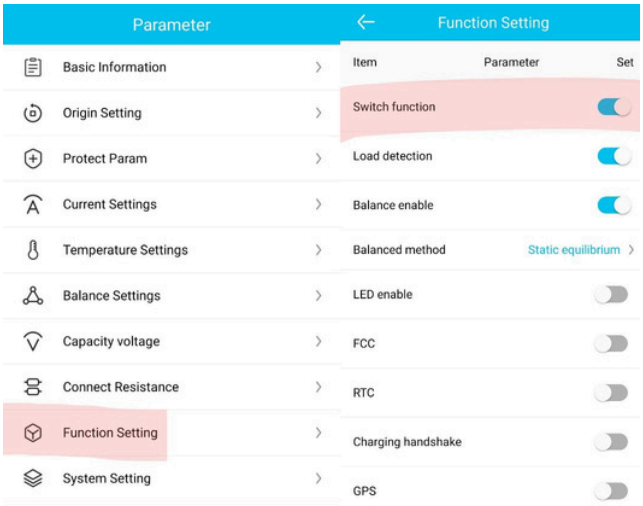
12. Enter the BMS app (which can be found at http://mullerenergy.com.au/bms) and connect the BMS. If you have multiple BMSs, you can select the right one by matching the MAC address on the back of the Bluetooth dongle.



Should you require a passcode, it's "000000".



Once connected, you can overwrite the BMS discharge disable switch, by turning off "Switch function". It's recommended to turn off discharge via the app or on the screen prior to connecting or disconnecting a load to the battery, if not using the switch.



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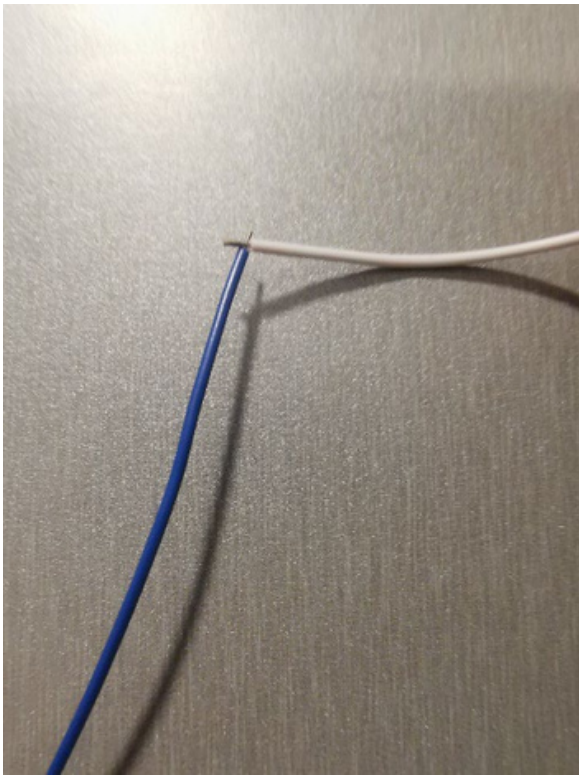
13. Alternatively, to enable discharge, the BMS discharge switch cables have to be connected together. Normally this would be done with a switch outside the battery case.



4. Precautions

While this is “only” a 48V BMS, extreme caution needs to be taken while working on the BMS and the battery. If an accidental short circuit is created, this can cause over 1000A to flow which is enough to cause serious damage.

Wearing of gloves and eye protection is highly recommended, as is working with non-conductive tools.

If you are unsure of any of the steps, please contact the team at Muller Energy before proceeding.

Pictures in these instructions are for illustration purposes only.

When selecting wire sizes please consult a voltage drop calculator.

The use of fuses or circuit breakers is recommended. Sizing of the circuit breaker depends on your application.

Before using the battery, please ensure that all BMS settings are appropriate for your battery.