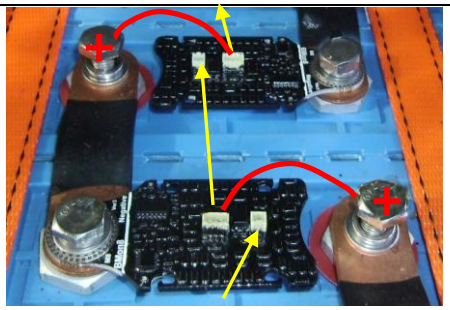
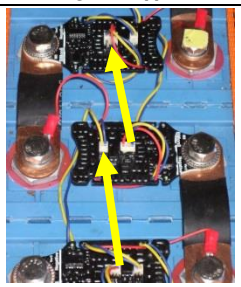
Connecting BlockMons - Battery Pack Chain

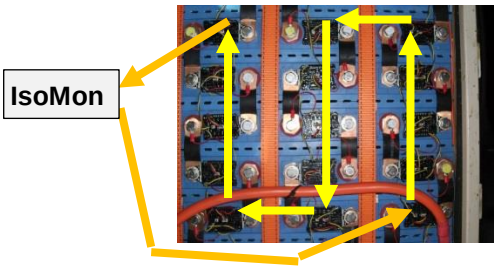
Mount BlockMons to the negative (-) terminal (on top of busbar).



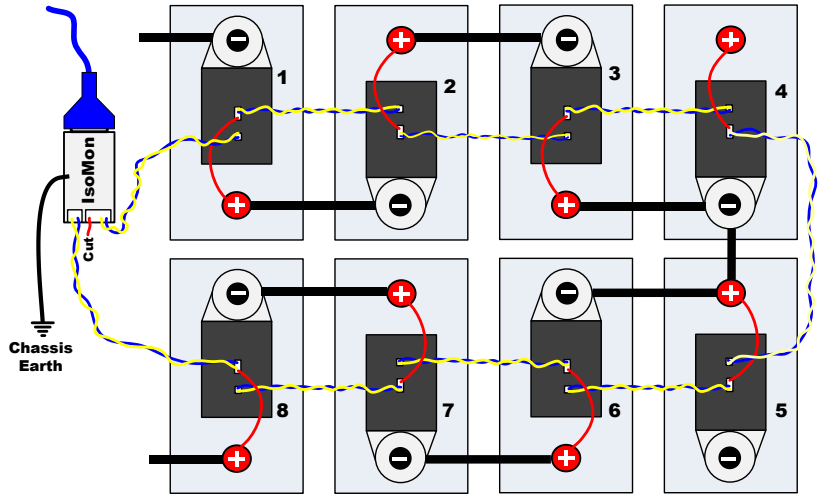
Always connect to the + and - before inserting 4 pin connector.



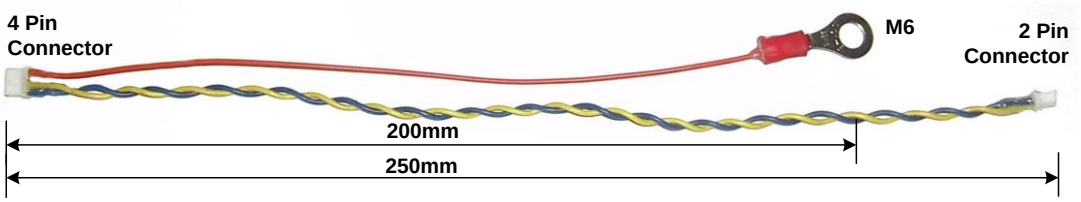
Connect chain (4 pin to 2 pin) and tuck wires into the slots.



One continuous chain starting and ending at the IsoMon.



Typical BlockMon Wiring



BlockMon Cable

BlockMon8 (M8)

BlockMon14 (M14)

Connecting the Battery Chain

1. Perform each operation with the small cable connectors un-plugged from the PCB. Only connect the plug to the PCB once both terminals are secured to the cells. This reduces the chance of high voltage damage across the input terminals of the BlockMons.
2. Start with the most negative battery (cell #1) and work up the chain to the most positive.
3. Secure BlockMons to the negative cell terminals. Mount them above the busbars. Do not allow the bottom electronics area (beyond the white line) to come into contact with any other metal. This area is live relative to the cell voltages.
4. Connect the cable red ring terminal to the battery positive.
5. Lastly connect the small 4 pin connector. At this point the PCB LEDs will flash. The green LED will stay ON until it has received the first valid data (from PacMon or PC).
6. Connect the next BlockMon. Connect the 4 pin output from the previous device to the 2 pin input of the present device to form a continuous “daisy” chain.
7. As each device is mounted ensure that the green BlockMon LED is ON (device is powered).
8. It may be necessary to extend the blue and yellow twisted cables. Do this by splicing in additional lengths of twisted cables. These cables are live relative to the previous cell. Do not allow them to come into contact with other batteries or metal.
9. It is not essential that the cell battery chain progresses in the same order as the cell connection order. The two pin input at the BlockMon is opto-isolated and can daisy chain to any other cell in the pack.

When installing, remember to insert the 4 pin connectors last. In the same way, always unplug the 4 pin connector first before disconnecting the battery terminals to prevent possible high voltage events damaging the BlockMons.

The red power connection for each BlockMon must be applied across one cell only. LongMons are ±20V tolerant, however take care when wiring.

When mounting the BlockMons, do not allow metal to come in contact with the top or bottom of the PCB surface. The black thermally conductive epoxy coating adds robustness but does not provide sufficient insulation to prevent short circuit. A short to either of these surfaces will damage the BlockMon electronics.

Connect the IsoMon to the Battery Chain.

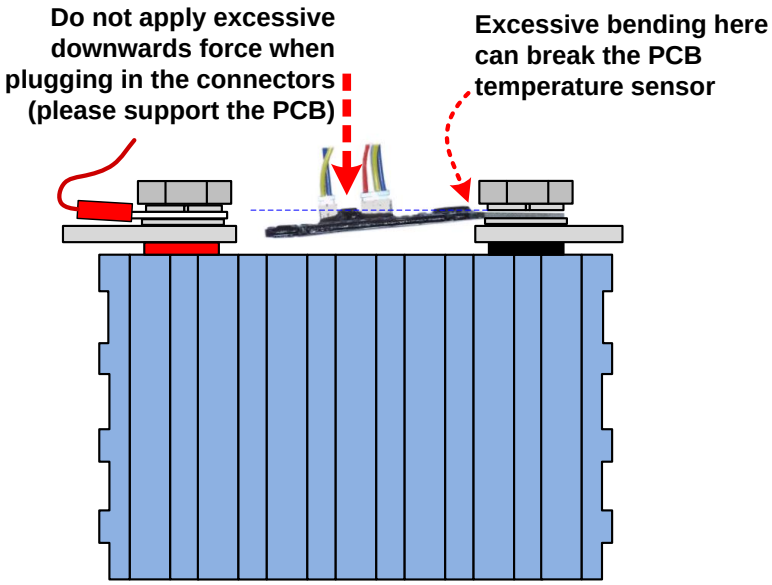
1. Use the same blue and yellow twisted pair cables to terminate the BlockMon daisy chains into IsoMon (from the first and last battery connections).
2. The spare red cable at the IsoMon is not used and can be cut off or insulated.
3. Secure the IsoMon earth cable to chassis (provides a fault current path to earth).

The software “Network Tester” can be used to locate breaks in the chain (see tools menu). Re-number the cell chain (addresses) through the software commissioning wizard once the full battery chain has been completed.

BlockMon Mounting Notes

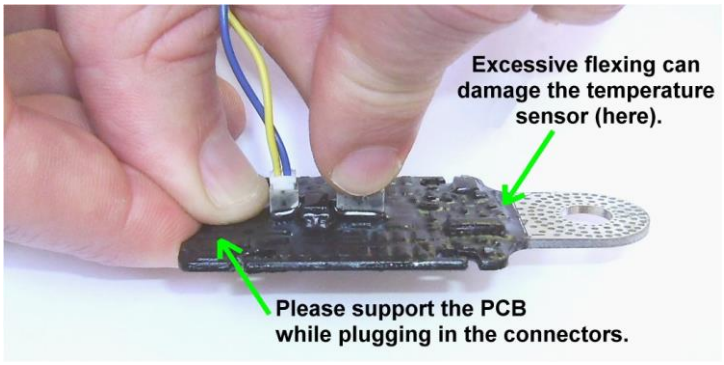
The diagram below shows the typical mounting screw arrangement.

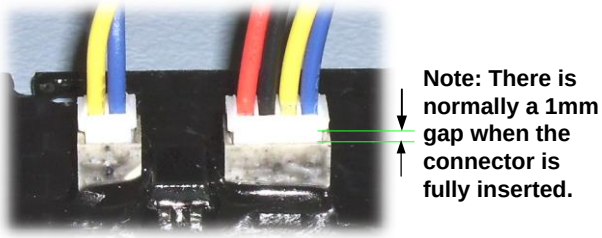
BlockMons have a strong 2mm thick PCB. However it is possible to apply excessive bend forces on the BlockMon PCB near the temperature sensor (requiring replacement of the PCB).



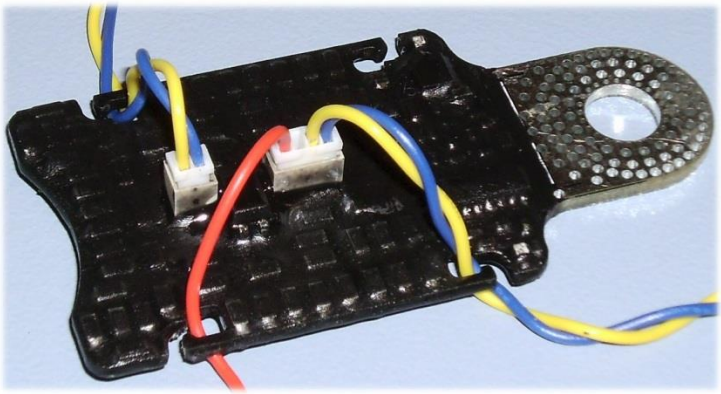
.

Support the PCB when inserting and removing the connectors. Note when the connectors are fully inserted there is normally a 1mm gap at the top of the connector (as shown below).





In high vibration environments, it is good practice to provide a soft non-conductive support (cushion) under the BlockMons so that they do not vibrate excessively (double sided tape, foam etc.).



BlockMons also have 4 convenient slots where cables can be tied down (tucked away) both for neatness and less chance of working loose.