MultiMon (MM8) Install Checklist

This is the Beta Customer Checklist, which you should go though whilst planning and designing your BMS requirements.

Is it suitable?

- Each **MultiMon** monitors between 10 - 15 cells in series.
- Cell voltage between 0.5v and 5v.
- Ensure that the battery pack cannot be pulled apart in cell groups as this risks the BMS being damaged whilst connected (**i.e. twin 7S being separated**).
- The supply power must be fully isolated from the accessory circuit.
- Can handle supervisor consumption of 1 Ah/day (**for 48v**) when running WiFi connectivity (**~2W**).
- The size of the battery connected to the **MultiMon** should be as similar as possible to the Master **WatchMonPlus** so that when charging and discharging they reach full and empty together.

What can I do with a MultiMon (MM8) that I can't do with a WM5

1. **MM8** allows you to expand your system by multi-string on extra banks of batteries with your **WatchMonPlus** as satellites doubling/tripling or more of your battery banks.
2. **MM8** allows you to expand your system into a higher voltage. Do you want 96 V or more?

Wiring for WatchMonPlus and MultiMon MM8

This is a video showing the process of preparing balancing wires for the **WatchMonPlus** and **MultiMon**

VIDEO: WatchMonPlus WM5 Preparing Balancing Wires

Note: ALL wires on the same MultiMon need to belong to the same battery bank.

Test the Wiring with a TestMon

Whenever altering the wiring unplug from the **WatchMonPlus**, make your changes and verify with the **TestMon** again.

Please let us know if LTO batteries are to be used.

[VIDEO: Batrium TestMon Commissioning Tool](#)

The **TestMon** is Included with **WatchMonPlus** orders

Commissioning

1. Configure up **WatchMonPlus** first, as required

[VIDEO - Commissioning and Install Supervisor (28 mins)](#)

2. [MM8 WatchMon Toolkit setup](#)

- Please ensure that number sequence given to **WatchMonPlus** and **MM8**'s do not clash and are sequential.
- Only one **WatchMonPlus** or **MM8** is plugged into the computer at any one time.

3. Plug in temperature sensors and distribute to battery

4. Wire up the supply power. It must be fully isolated from the accessory circuit. A plug pack and daisy chain is acceptable

5. Wire up CANbus. **Remember, a resistor is required at each end of the chain.**

CANbus Chain

Create CANbus wiring from the **Master** to the last satellite in the sequence with a **120 Ohm resistor** at each end.

Twisted cable is used as per other CAN interfaces.

- The Inverter usually has the resistor built in starts the sequence
- Our Master **WatchMonPlus** is next in the sequence. If not communicating via CANbus the resistor needs to be on the **WatchMonPlus**
- Note CANbus plug with resistor included with **WatchMonPlus**. This can be swapped to the end of sequence **MM8** if CANbus to inverter is used.
- Next connect the CANbus from the **WatchMonPlus** to the first **MM8**.
- Continue connecting in a daisy chain CAN high and CAN low till all your MM8 are connected, The last one in the daisy chain requires a resistor to signify the end.

Post Install Balancing Verification Procedures

These should just be extended to check the connection

1. Adjust the bypass voltage threshold below actual cell voltages to ensure that every cell bypass works
2. Visually check that each balancing Red LED works odds / evens
3. Detect that the heatsink increases in temperature
4. Return voltage threshold back to target values.