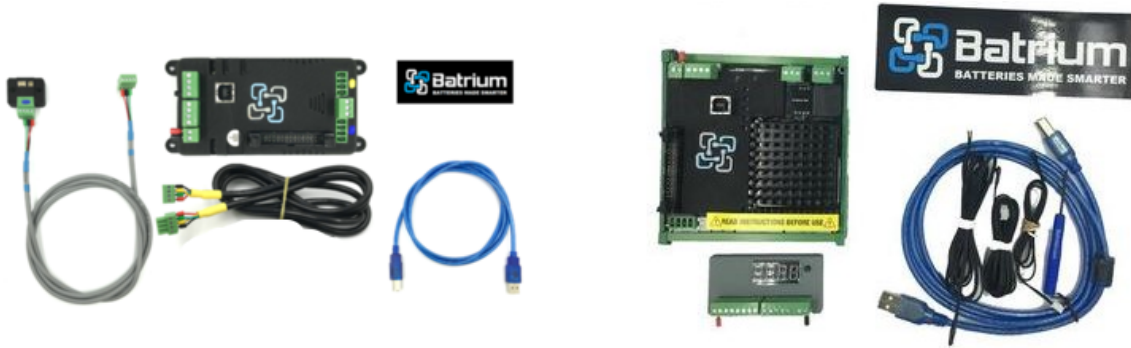# WatchMonPlus or WatchMon 4

What are the differences between WatchMonPlus (WM5 or WM7) and WatchMon4?

Centralised or Decentralised

WatchMonPlus is Centralised, this means that the cell monitoring is on the supervisor board as an all in one solution with fewer things to go wrong, meaning it is generally simpler wiring. It has separate temperature sensors, has a shared wiring harness for repurposed EV cells.

- We have the **WM7** version for **24V** systems (**this allows between 6-10 cells to be monitored**)

- and the **WMPlus** version for **48V** systems (**this allows between 10-15 cells to be monitored**)

WatchMon4 is Decentralised, which means that the Supervisor and cell monitoring are separate. As they are separate there is more flexibility in how many are wired up and how they are configured. This gives you the ability to vary your system in a more flexible way allowing anything from monitoring a single battery to 250 cells.

Cost and Ease of use

WatchMonPlus is lower in cost and has fewer parts so it has fewer things which could go wrong once you have the wiring correct.

Confirmation of Wiring Success

WatchMonPlus uses TestMon to verify that the wiring is correct before connecting your battery to the WatchMon whilst WatchMon4 uses the Network Test. If either of these fail to check your wiring, **DO NOT** proceed until you get a **Pass**.

What Batteries are able to be Monitored by each WatchMon?

WatchMonPlus is more flexible here as it can deal with Shared Loom batteries, such as Tesla, Chevy and Fiat and also extends the voltage range allowing LTO batteries to be monitored.

(Note: LTO, due to the lower voltage per cell would make the WM5 a 24V system and WM7 a 12V system)

The WatchMonPlus can also be wired up to all the other batteries that WatchMon4 is capable of monitoring. It's limitation is that is has a fixed amount of cell monitors, therefore 4s, 16s or 18s configurations cannot be achieved and therefore would need WatchMon4. For this you would need to prepare your own balancing wires.

WatchMon4 would requires a cell monitor per cell in series, LeafMon or use with Leaf cells, BlockMons for use with Prismatic cells and LongMonds for others. **Note that WatchMon4 is not suited to OEM shared loom batteries.**

Temperature

WatchMonPlus has 3 external temperature sensors that can be placed around the battery pack to measure cell temperature. WatchMon4 relies on the temperature sensors on the cell monitors themselves so has one per cell monitor.

Compatibility

Any expansion board, SOC% sensor, inverter or charger compatible with a WatchMon4 will also be compatible to WatchMonPlus WM5(48V nom) or WM7(24V nom)

Balancing Power

WatchMon4 is able to balance 28.8Ah per cell per day whilst WatchMonPlus is able to balance 6Ah per cell per day.

Typically, the daily balancing requirement is between 100mAh and 1000mAh. This will depend on the cell age, chemistry and configuration. Balancing power beyond this level is useful to have in reserve for the initial balance and any minor fault or reconfiguration event but not every day.

If the initial cells are seriously out of balance and a large pack do some manual balancing to reduce the time for this first balance.

Video

[WatchMon4 vs WatchMon5 Plus Series - Comparison Video](#)

Why would I choose a WatchMon4 over a WatchMonPlus?

- If configuration outside of 6-10s or 10-15s limits

- If battery pack requires higher balancing power

- have existing cell monitors that wish to reuse

Why would I choose a WatchMonPlus over a WatchMon4

- Using OEM batteries such as Tesla, Fiat, Chevy etc.

- Using LTO batteries therefore requiring wider voltage range

- Simpler install

- Cheaper

- All in one solution, fewer things to go wrong.