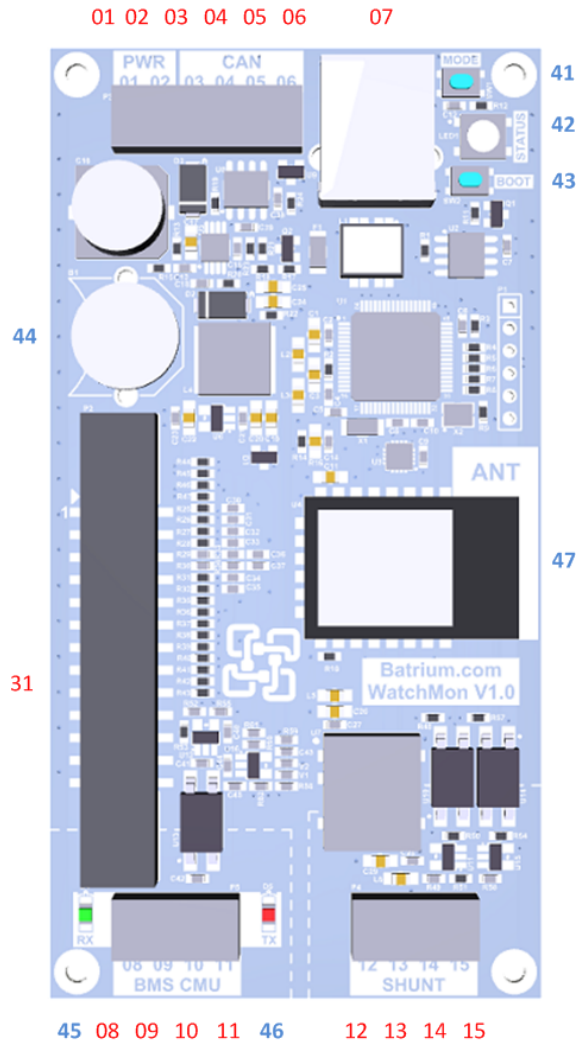


Watchmon1 Hardware Guide And Pin Assignment

BMS central processor for watching CMU cell monitoring units and provides supervision functions. The supervisor is able to notify remote system(s) of the battery state and when required trigger evasive action to prevent damage to battery pack.





Features with Expansion Boards

- Built-in 8v to 65v DC-DC supply
- Can-Bus communication port
- Isolated Shunt port - Coulomb current sensor
- Isolated CellMon port
- WiFi connectivity
- 8 Input (2 Analogue, 1 Pulse counter)
- 10 Output (2 x PWM, 4 Contactor, 4 Relay)

- NeoPixel LED control
- Audio amplifier speaker (alerts and warnings)
- Data logging of key metrics for 10 years
- Clock with backup battery
- Various extension boards from the expansion port
- Dimensions 107 mm Length x 55 mm Width

Pin Outputs – Top Terminals

Pin	Name	Details
01	Ground	Supply ground
02	Supply	Supply 8 – 65 v
03	BmsBus - Out-Hi	BMS Can network – Outbound – CanBus-Hi
04	BmsBus – Out-Lo	BMS Can network – Outbound – CanBus-Lo
05	BmsBus – In-Hi	BMS Can network – Inbound – CanBus-Hi
06	BmsBus – In-Lo	BMS Can network – Inbound – CanBus-Lo
07	USB 2.0	PC – USB serial connection

Pin Outputs – Bottom Terminals

Pin	Name	Details
08	CMU – RX – P	From BMS cellmon network (isolated)
09	CMU – RX – N	From BMS cellmon network (isolated)
10	CMU – TX – P	To BMS cellmon network (isolated)
11	CMU – TX – N	To BMS cellmon network (isolated)
12	Shunt – Supply	Current sensor – Supply >3.3v (isolated)
13	Shunt – RX	Current sensor - RX comm (isolated)
14	Shunt – TX	Current sensor - TX comm (isolated)
15	Shunt - Ground	Current sensor - Ground (isolated)

Pin Outputs – Side Terminals

Pin	Name	Details
31	Expansion Port	26pin Expansion Port

Callout References

Callout	Name	Details
41	Mode button	Used to switch operating modes (Idle/Run)
42	Status LED	Multi colour LED status RGB
43	Program Button	Reset processor and update new firmware
44	Clock Battery	Coin battery CR1225 clock
45	CMU - RX	Cellmon port RX activity (Green led)
46	CMU - TX	Cellmon port TX activity (Red led)
47	Wifi	Wireless communication (with SoftAP)