BMS Safe
THE BMS COMPANY

6-18S BMS PowerSafe

- 750A
- CAN BUS
- EN61508
- Serializable
- SIL2 compliant
- External Powerbox

Non contractual photo
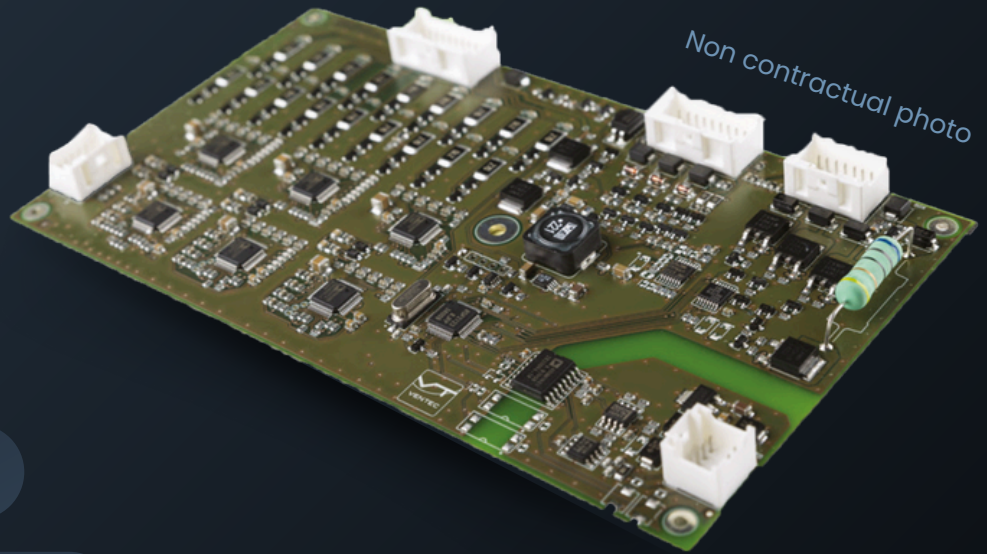
> eMobility

> Automotive

Technical Description

Cells management

*Factory setting

- Possibility to connect in series several BMS in order to manage a battery pack with a voltage up to 1000 Volts (depending on precharge management)
- Management of 6 to 18 lithium cells in series* compatible with all cell technologies (NMC, LiFe, LiPo,...),
- Measurements accuracy :
  - Cell voltages: +/- 5 mV
  - Temperatures: +/- 1°C
- Management of 6 NTC temperature sensors.
  - 3 digital measurements used by the software
  - 3 analogic measurements used by the hardware redundancy

Protections

- Hardware redundancy for voltage and temperature measurements in order to reach a high level of safety (SIL2 of EN61508 standard)
- Overcharge and undercharge, tunable by software
- Overtemperature and undertemperature, tunable by software
- Overcurrent : 2 levels in discharge, 1 level in discharge tunable by software
- Short circuit hardware protection (resettable electronic fuse)

Balancing

- Passive balancing with a 150 mA bypass current per cell (on the BMS)

Power Box

** No need for an external 12V supply

- Bidirectional measurement of the battery current with a hall effect sensor
- Charge and discharge management
- Power box management up to 750 A :
  - Command of an external 12V electromechanical contactor**
  - Command of a precharge circuit (included on the board or external)
  - Possibility to control two additionnal 12V contactors**

Smart functions

- SOC and SOH calculation
- Advanced self-diagnostic of the board
- Communication by CAN bus 2.0B (opto-isolated)
  - Motor controller management by CAN bus
  - Charger management by CAN bus
- Advanced supervision software
- Black box integrated with defaults history storage and life counters
- Possibility to reprogram the firmware by CAN Bus

Power supply/consumption

- Supply of the BMS directly on the battery pack
- Low consumption in standby mode: < 500 µA

Mechanical format

- 113 mm x 180 mm x 12 mm
- Can be potted to be used in harsh environment