

## 7-8S CAN BMS PowerSafe

40A

CAN BUS

EN61508

Parallelizable

SIL2 compliant

Powerbox Inside



➤ eMobility



➤ Energy storage



### Cells management

- Management of 7 or 8 lithium cells in series\*, compatible with all cell technologies (NMC, LiFe, LiPo...)
- Management of 4 NTC temperature sensors :
  - Cell voltages:  $\pm 5$  mV
  - Temperatures:  $\pm 1^\circ\text{C}$
- Management of 6 NTC temperature sensors.
  - 3 digital measurements used by the software
  - 3 analogic measurements used by the hardware redundancy

\* Factory setting

### 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)
  - Above 41 A for more than 100  $\mu\text{s}$

### Balancing

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

### Power Box

- Integrated power box with MOSFET technology :
  - 40 A continuous current in charge/discharge
  - 40 A maximum peak current in charge/discharge
- Bidirectional measurement of the battery current
- Precharge circuit included on the BMS
- No heatsink required
- Integrated 12V isolated power supply to power an external controller

### Smart functions

- SOC and SOH calculation
- Advanced self-diagnostic of the board
- Communication by CAN bus 2.0B (opto-isolated)
- Possibility to manage the motor controller and the charger
- Advanced supervision software
- Black box integrated with defaults history storage and life counters
- Possibility to connect two packs in parallel

### Power supply/consumption

- Supply of the BMS directly on the battery pack
- Low consumption in sleep mode:  $< 500 \mu\text{A}$

### Mechanical format

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