Products and Services

WHAT DO WE OFFER?

LiTHIUM BALANCE
BATTERY MANAGEMENT SYSTEMS

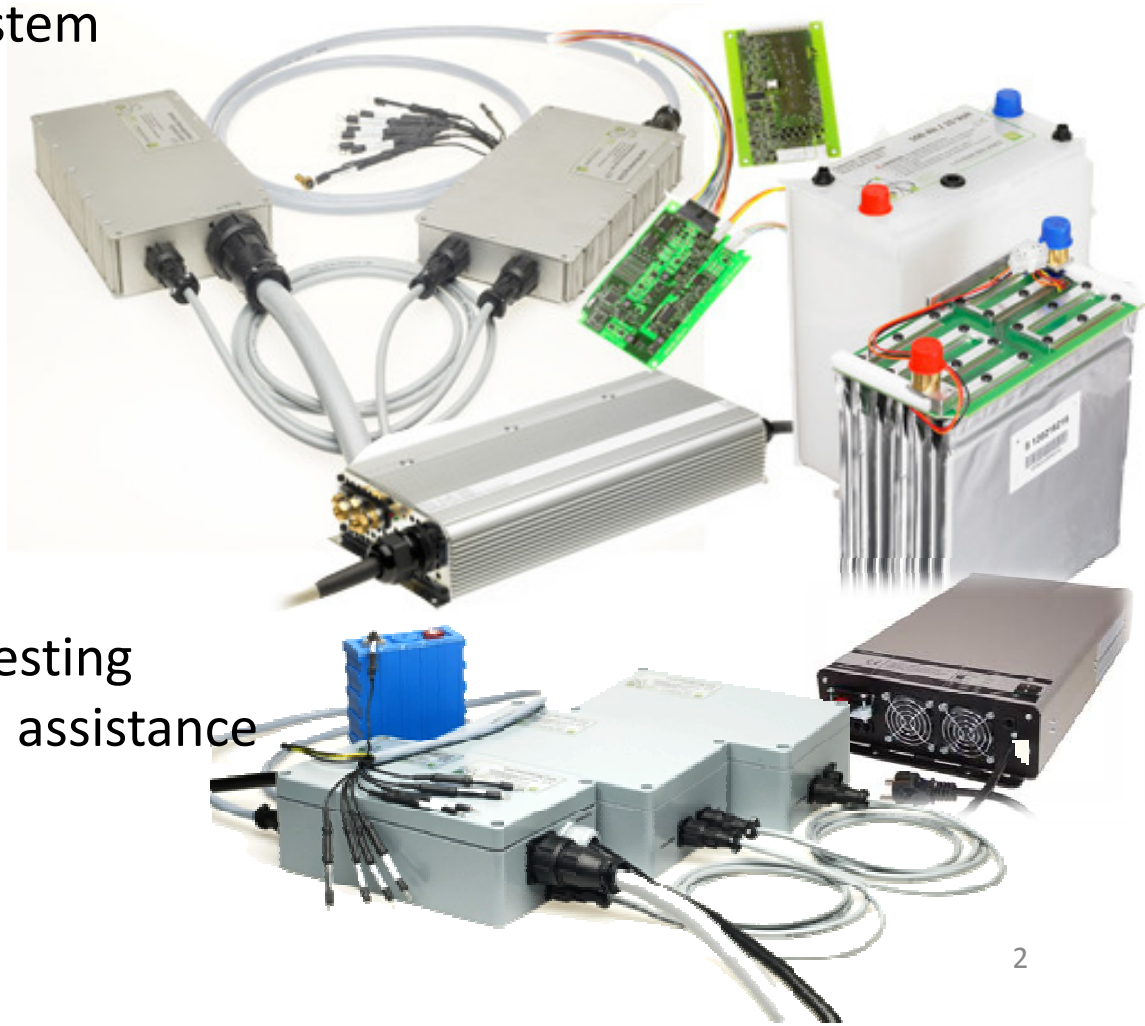
Our Products and Services

Products

- Battery Management System
- Switchbox solutions
- Chargers
- PC software
- Wire harnesses

Services

- Battery pack design
- Electrical system design
- System integration and testing
- Installation and technical assistance
- Project Management



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Battery Management - Types

Integrated, single unit (I-BMS)

- 12-72V
- Built-in power electronics
- RS232 communication
- Diagnostic software
- Plug & Play

Scalable, modular (S-BMS)

- Up to 600V
- RS232 and CAN-bus
- Diagnostic software
- 2 HW Configurations

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Scalable BMS

Product Presentation

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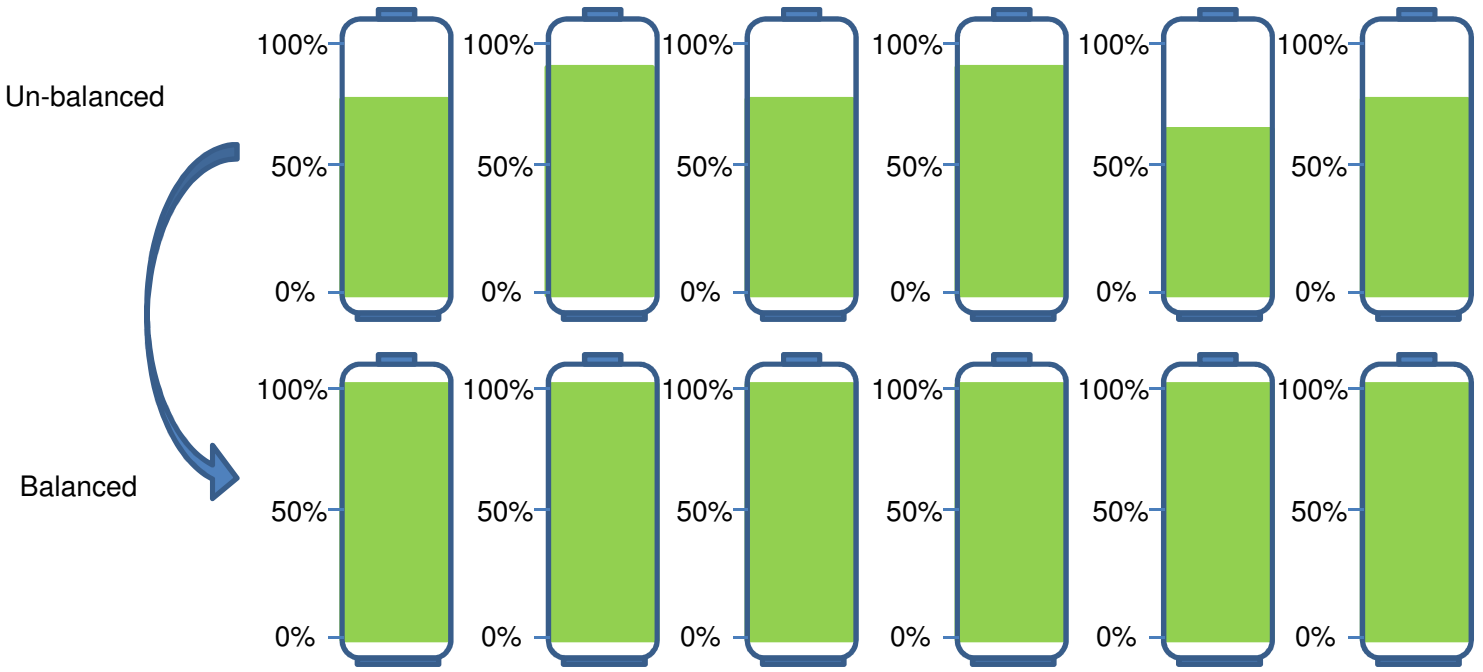
Battery management, explained

The collection of features and functions that enable the safe and reliable operation of battery cells or packs

- All battery types require some degree of management to optimise performance.
- The larger the pack, the greater the need for management
- Lithium Ion batteries are relatively expensive and do not tolerate abuse – management is essential
- Lithium Ion batteries are inherently unsafe unless properly managed

Cell balancing

The process of equalising the SoC of all of the cells across the battery pack. Saves individual cells from being overcharged during charging and over discharged during operation. Fully balanced pack maximises capacity



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S-BMS Technical values

PROTECTION

Extend cell life
Safe to use

Protection against:

- Over-charge
- Deep discharge
- Overload
- Short-circuit
- Temperature

PERFORMANCE

Higher capacity
Shorter charge time

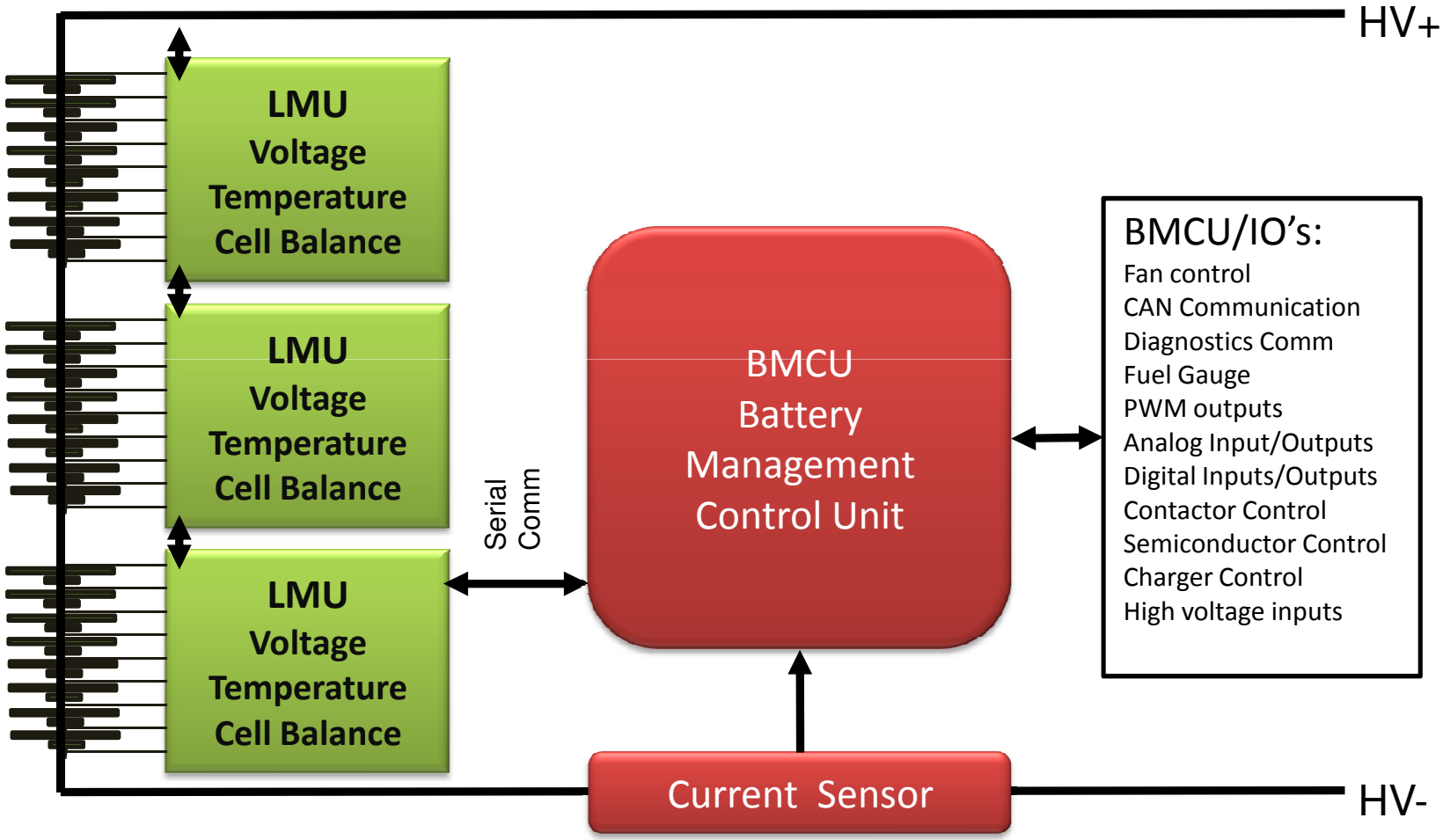
- Cell balancing
- Optimised charge algorithms
- SOH calculation

MANAGEMENT

Application interface
Diagnostics

- Charger Control
- Contactor Control
- Can-bus interface
- History log
- BMS Configuration

LiTHIUM BALANCE S-BMS



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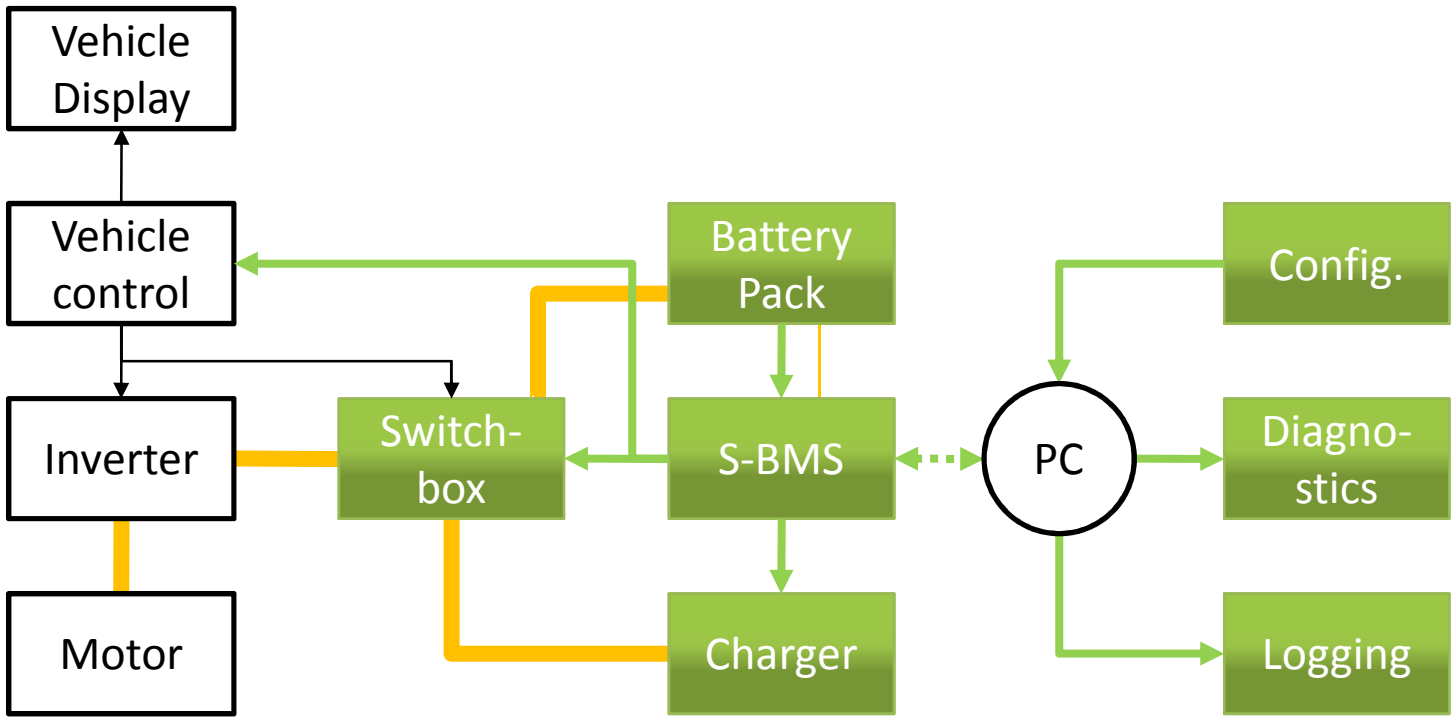
System overview



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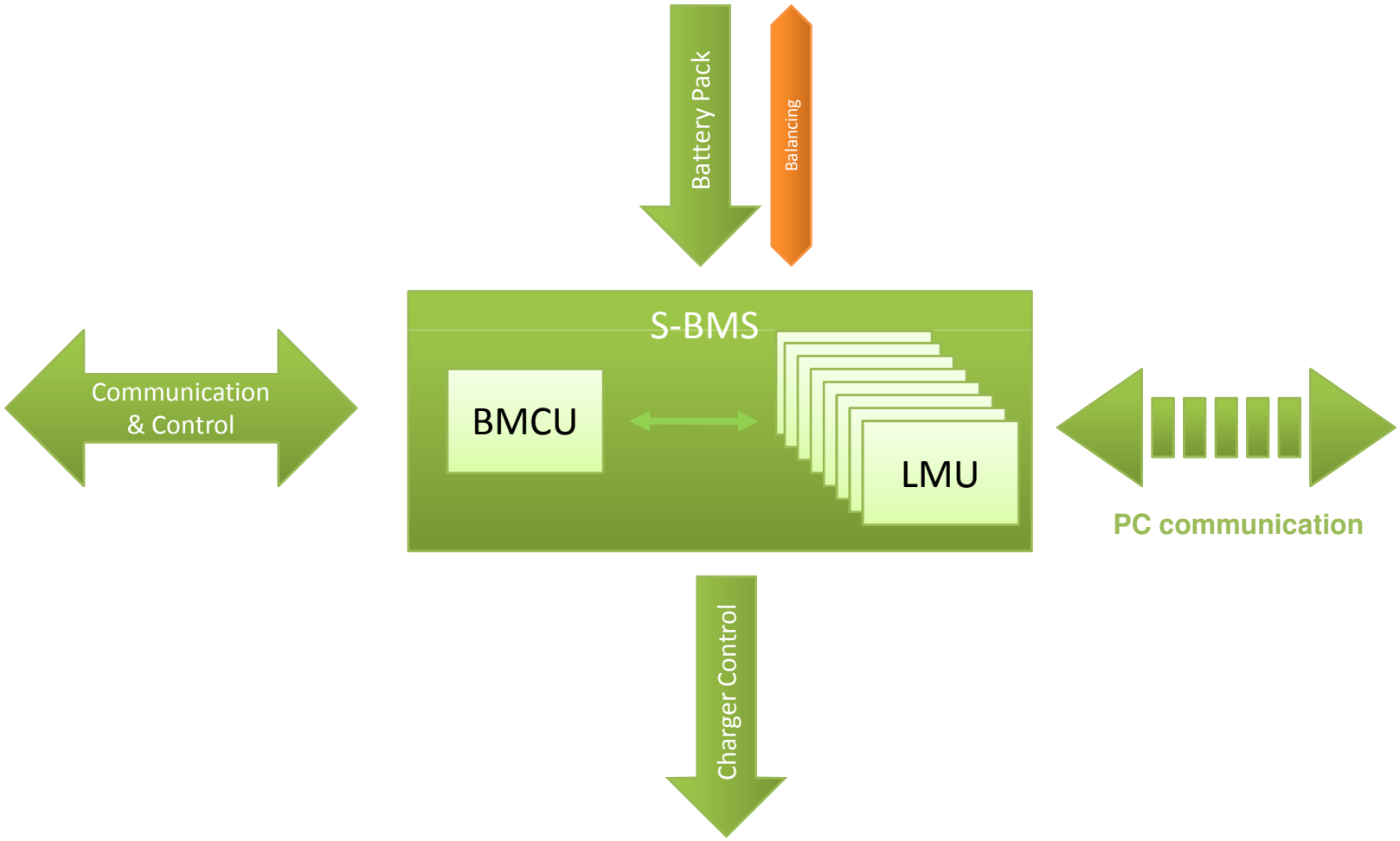
S-BMS



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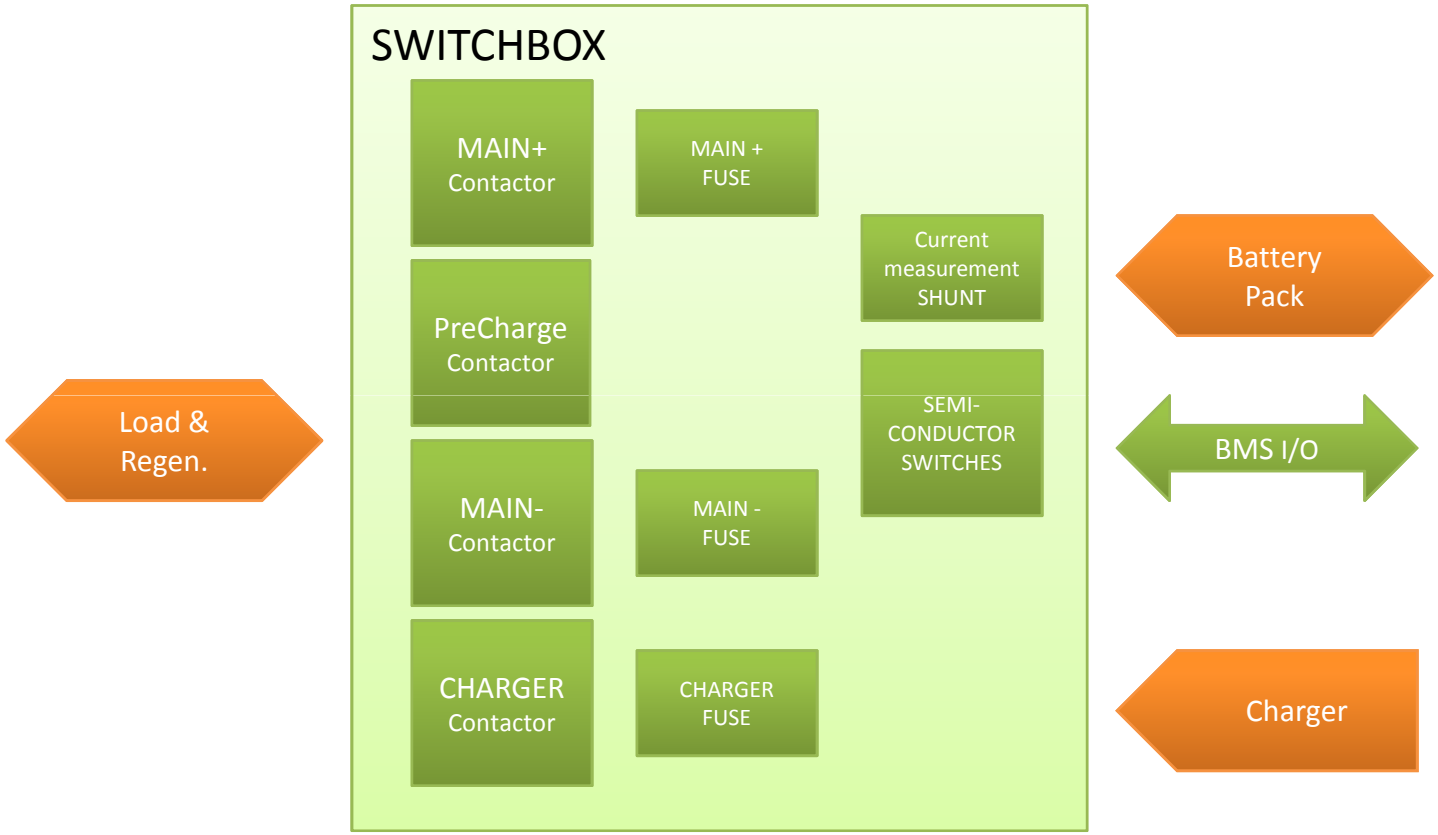
Switchbox layout



S-BMS in summary

- Central board serially connected to satellite monitoring boards
- Central board can connect to 32 satellite boards
- Satellite boards can connect to 3-8 battery cells in series
- Up to 256 cells and 600V

”S” is for Scalable

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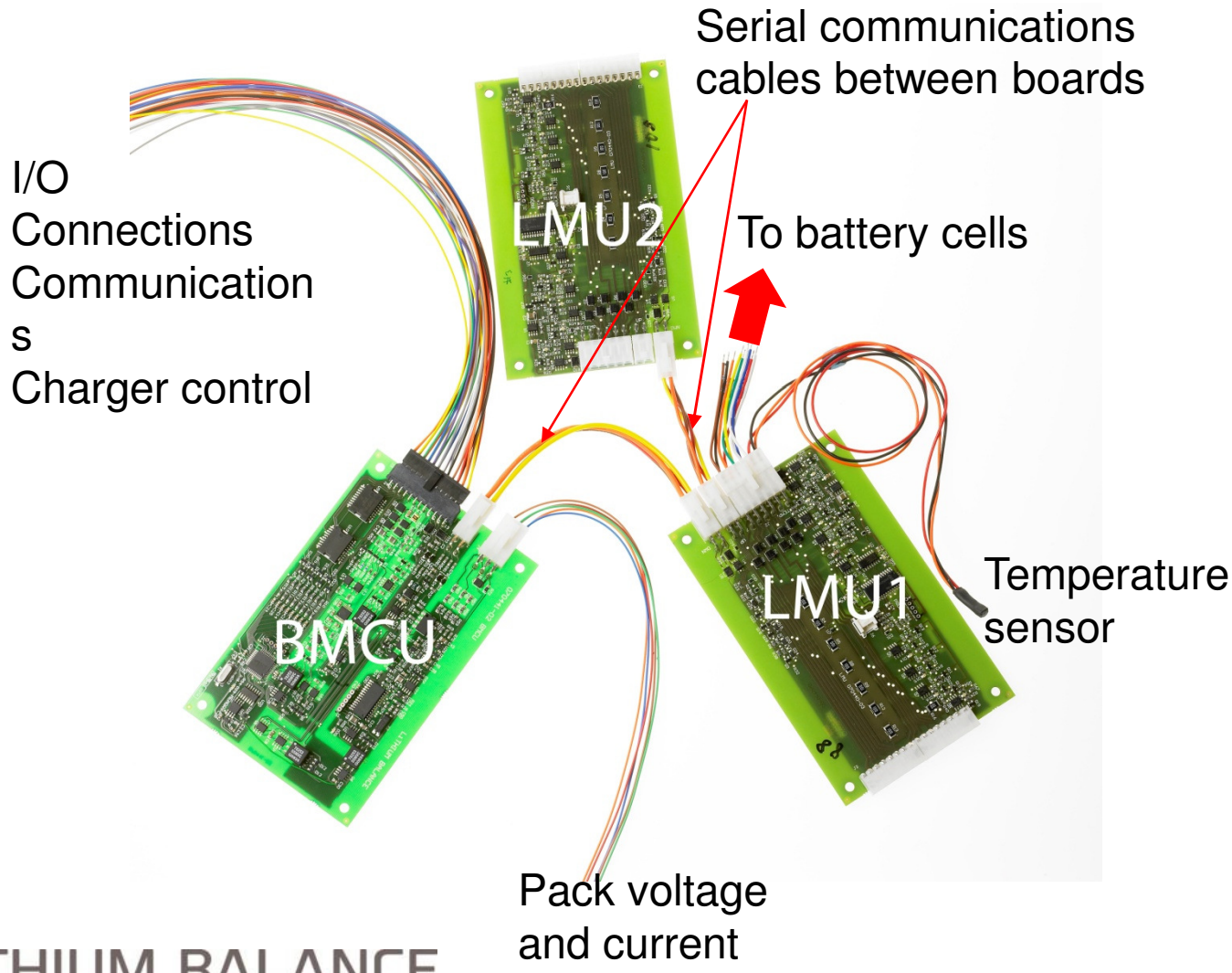
S-BMS (Board Configuration)



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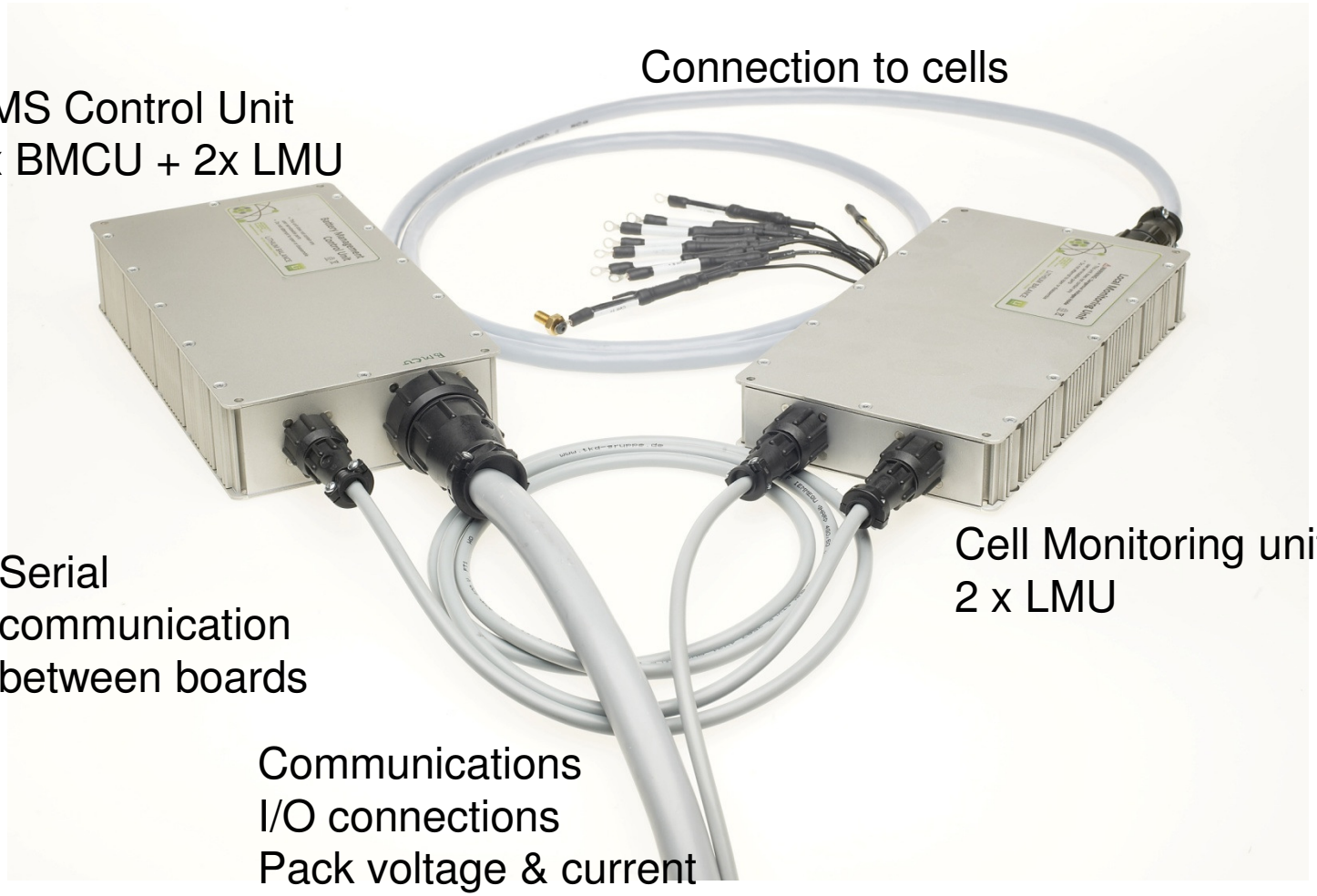
S-BMS (Boxed Configuration)



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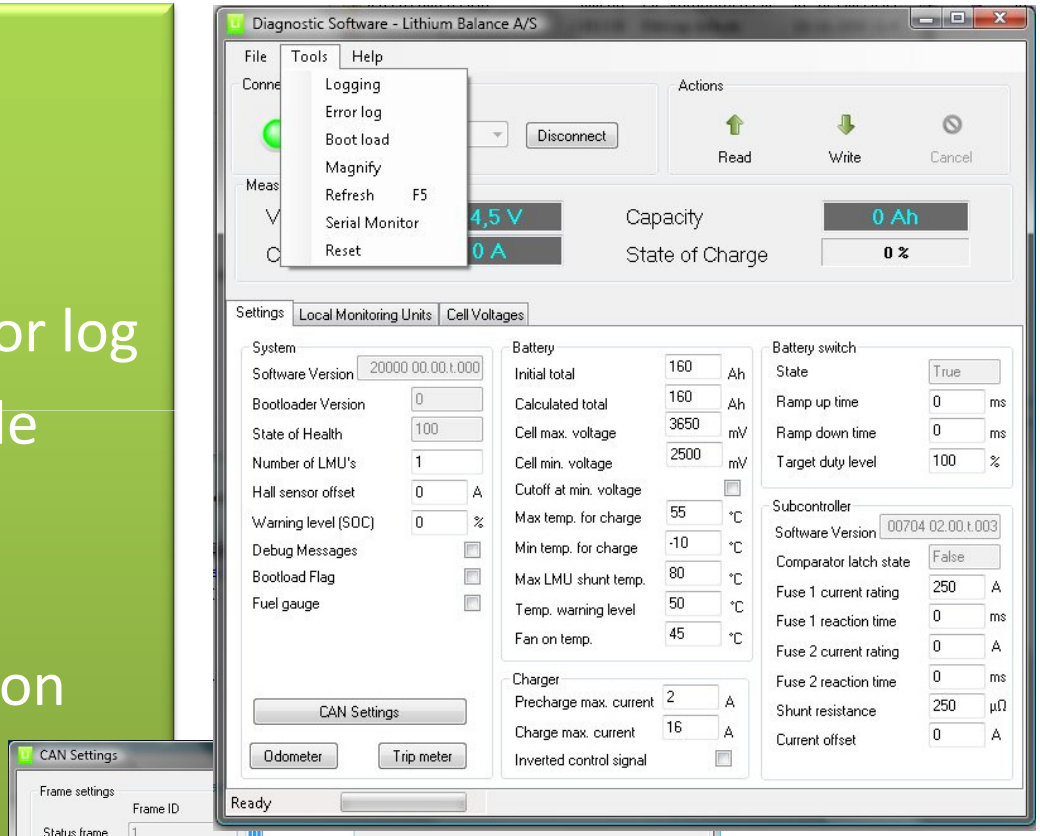
Installation Hardware

- Made simple by:
  - Dedicated connection cables
  - Dedicated accessories
  - Standardised connectors
- Connect to cells using fuselink equipped cables
- Daisy chain boards or boxes together
- Connect to switching contactors – driven directly from the main board, no breakout board required
- Connect to charger
- Connect to thermal management device

Advanced PC Software

- Configure your system
- Monitor performance
- Log results
- Download onboard error log
- Configure user definable CAN signals
- Save configuration
- Load stored configuration



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