

# Battery Management System for mobile and stationary applications



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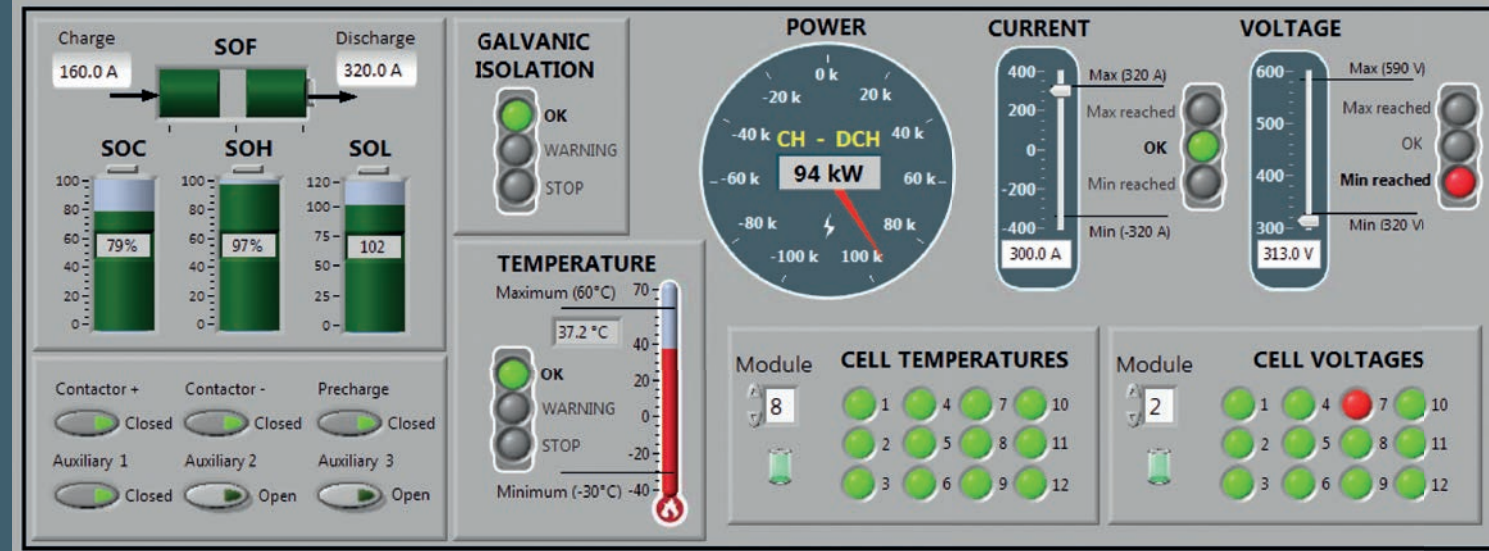
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modular  
**reliable** future-proof **powerful**  
 simple free smart safe  
**fox BMS**  
 supported open universal flexible  
 maintained



### What is foxBMS?

With foxBMS, Fraunhofer IISB delivers the first generation of its open source battery management system (BMS) research and development platform. The foxBMS platform is completely free and open, designed for a maximum of flexibility, and comprehensively documented. It includes all necessary hardware and software for potentially any kind of mobile and stationary application that uses modern rechargeable electrochemical energy storage systems (e.g., lithium-ion batteries, redox-flow batteries, supercapacitors):

- **foxBMS Hardware:** the schematics and the layout of all electronic boards are available for download and the design is based on commonly available components and devices, that do not require NDAs or confidentiality agreements.
- **foxBMS Software:** the software toolchain uses only free of charge third-party software, and the entire BMS source code is provided online with its own development environment and configuration files, thus enabling immediate use on Windows, Mac, and Linux operating systems.

### What is foxBMS designed for?

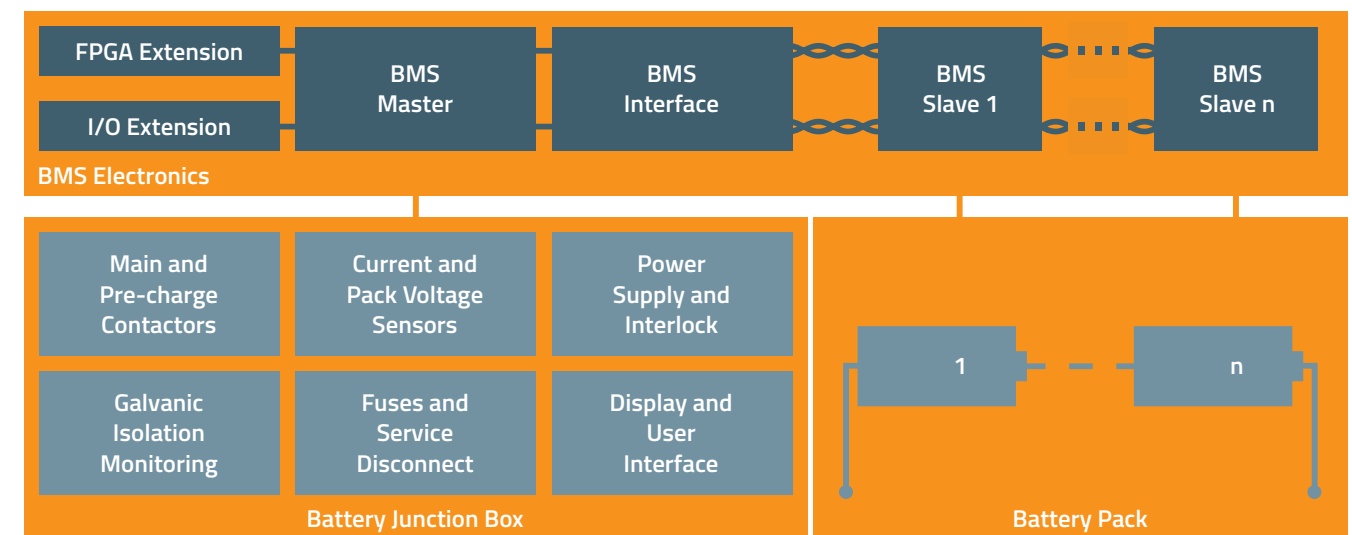
Experience gained from international research and development projects over the last 15 years in the field of electrochemical energy storage systems at Fraunhofer IISB has been implemented in the hardware and software of the foxBMS platform. It is designed to manage high-performance prototypes of advanced and innovative lithium-ion battery systems of any size (i.e., from a few cells up to several hundreds of kWh and kW), especially for systems requiring the highest availability and safety levels. The free and open source version of foxBMS is not intended for immediate use in commercial products as they have to meet specific standards and require application-dependent certifications. In fact, foxBMS is a safe research, development, and test platform providing all functions for managing the complexity and size of state-of-the-art electrochemical energy storage systems. Specific adaptations of foxBMS can be ordered directly from Fraunhofer IISB or can be jointly developed with us for you, for example for automotive, aviation, space, submarine, industrial, and renewable energy storage applications.

### Is foxBMS for you?

With foxBMS you get a free and open BMS platform that can be used for developing and testing your products. The foxBMS hardware and documentation are licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) license. The foxBMS software is licensed under the BSD 3-Clause license. This means, foxBMS parts can be utilized unrestrictedly, including commercial use. The foxBMS platform addresses especially:

- R&D and test engineers requiring a smart and powerful, well documented BMS platform
- Engineering companies requiring a maintained and supported BMS for their developments
- Small enterprises requiring a flexible and future proof BMS for developing their products
- Large enterprises requiring a reliable and safe BMS for testing their prototypes
- Research organizations requiring a simple and universal BMS development platform
- Students looking for a free and open BMS software development toolchain

### Overview of the foxBMS Hardware



### Overview of the foxBMS Software

