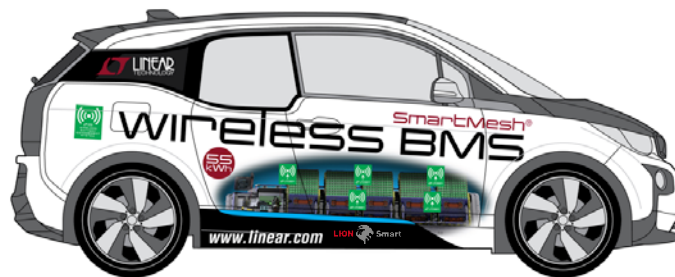


Wireless BMS Concept Car

The wireless BMS concept car, developed by LION Smart GmbH, combines Linear's highly accurate battery stack monitors with its SmartMesh wireless mesh networking products and LION Smart's state-of-the-art Open Source BMS in a BMW i3.

The demonstration of a wireless BMS car represents a significant breakthrough that offers the potential for improved reliability, lower cost and weight (reduces wiring complexity, saves galvanic isolations and connectors) for large multicell battery stacks in electric and hybrid/electric vehicles. Wireless connectivity also enables more flexible placement of battery modules, and makes the installation of additional sensors in locations previously unsuitable for a wiring harness possible.

Wireless technology shows the promise to significantly improve reliability and to simplify the design of automotive battery management systems.



Battery Management System

- » Flexible framework for scalable battery systems (12 cells per LMM, 16 LMM per LCM)
- » Adaptable monitoring system for all types and sizes of lithium-based battery packs
- » Modular design of the hardware and software architecture

Features of the wireless BMS

- » Improvement: reliability, more flexible placement
- » Savings: wiring complexity, galvanic isolations, connectors, space, weight
- » Better state of charge modelling due to time stamp data

Future benefits

- » Lower costs compared to present system
- » On line module testing during assembly (industry 4.0)

