

# Dukosi's smarter, safer, more sustainable cell monitoring solutions drive electrification across industries.



The demand for safe, reliable, and intelligent battery systems is reshaping industries. The **Dukosi Cell Monitoring System (DKCMS™)** brings award-winning chip-on-cell monitoring technology and an innovative new battery architecture to support the electrification of air, land, and marine applications, improving performance, flexibility, scalability, reliability, and sustainability in high-power batteries.

## ► DKCMS™ Advantages

### GROUND SUPPORT EQUIPMENT (GSE)

A flexible, scalable platform that can easily be adapted to all vehicle types. Extend fleet life, improve safety and reliability, and lower operational costs.

### INDUSTRIAL AUTOMATION & ROBOTICS

Maximize performance, extend fleet life, and lower operational costs through reliability advances. Benefit from flexible, scalable batteries that fit unique applications, with high safety even in challenging environments.

### AEROSPACE

Rigorous safety standards with reliable, contactless cell monitoring that's ideal for electrified aviation.

### BATTERY ENERGY STORAGE SYSTEMS (BESS)

The system performance, reliability, safety, and lifecycle management gains needed for next generation, large-scale battery storage systems.

### MARINE

Sustainable, safer, and reliable energy storage options for hybrid and fully electric vessels, whether above or below the waterline.

### COMMERCIAL & OFF-HIGHWAY VEHICLES

Support for extremely large, high-power battery packs that need to work in challenging conditions, whether seasonal or continuously.

### ELECTRIC VEHICLES (xEV)

Enable flexible, scalable battery designs to quickly adapt to fast-evolving markets and supply-chains. Maximize performance, range, safety, and reliability, improving brand image, and enhancing the customer experience.

## ► Inside DKCMS™

DKCMS has been architected from the ground up expressly for high performance batteries.

It consists of **Dukosi DK8102 Cell Monitors**, which are installed on each cell to capture accurate measurements of voltage and temperature. Each Cell Monitor uses **Dukosi's C-SynQ® proprietary communication protocol** to synchronously capture and send data to a **Dukosi DK8202 System Hub** using near field RF via a single bus antenna placed over the battery pack cells. The System Hub typically resides on the same PCB as the BMS host processor and communicates using the **DKCMS Library API**.

### CONTACTLESS CELL COMMUNICATION

Utilizes a single RF bus antenna and Dukosi's proprietary C-SynQ® protocol to relay data from each on-cell monitor to the BMS host – eliminating complex wiring harnesses and unreliable connectors.

### ENABLING NEXT-LIFE APPLICATIONS

By storing data at each cell to allow individual tracking and streamlined grading, it helps to create a circular economy (reduce, reuse, recycle) and a sustainable battery value chain.

### RICHER DATA FOR OPTIMIZED PERFORMANCE

More accurate cell-level voltage, current, and temperature data, empowering designers to optimize charge/discharge cycles, enhance thermal management, and maximize usable capacity over the pack's lifetime.

### 2\*GREATER RELIABILITY 10\*LOWER BOM

By removing mechanical failure points like connectors, solder joints, and harnesses, DKCMS delivers twice the pack-level reliability vs wired architectures, while cutting parts count (and assembly time).

### UNMATCHED DESIGN FLEXIBILITY

Supports up to 216 cell monitors per System Hub and employs Dukosi's highly robust C-SynQ® communications protocol, enabling seamless scaling from small modules to megawatt-scale packs with minimal redesign.

### ENHANCED SAFETY THROUGH PER-CELL INTELLIGENCE

Captures synchronous voltage and temperature reporting at the cell level, enabling rapid, precise fault detection to alert the BMS for proactive intervention before full-pack anomalies occur.

[Click here](#) to learn more about how Dukosi can help you meet your battery system design, performance, safety and/or sustainability goals.