



What is Dukosi's C-SynQ®

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C-SynQ® is Dukosi's proprietary communication protocol that is designed specifically for large networks in safety-critical environments, i.e. large battery-packs. Designed from the ground up, it offers robust communications with essential data synchronization, yet also with the capacity to be configured for any number of battery cells without additional design overhead.

The etymology represents its uniqueness:

- **C**ell-based monitoring and analytics
- **S**ynchronous; synchronised measurement and communication
- **Q** is the symbol representing electrical charge, measured in Coulombs.

Where does C-SynQ exist in the Dukosi chip-on-cell solution?

Dukosi's chip-on-cell technology starts with a dedicated Cell Monitor chip on every cell within the battery. Each Cell Monitor includes RF for contactless, near field connectivity. Using a single bus antenna that loops through the battery pack, C-SynQ represents the proprietary communication protocol that links the Dukosi System Hub residing on the main BMS controller, to the Cell Monitor to each cell.

Within the Dukosi chip-on-cell solution, C-SynQ offers a flexible, extendable protocol that can accommodate hundreds of cells reliably in a safety certified network, without having to redesign and recertify the whole battery.

Is C-SynQ a BMS system?

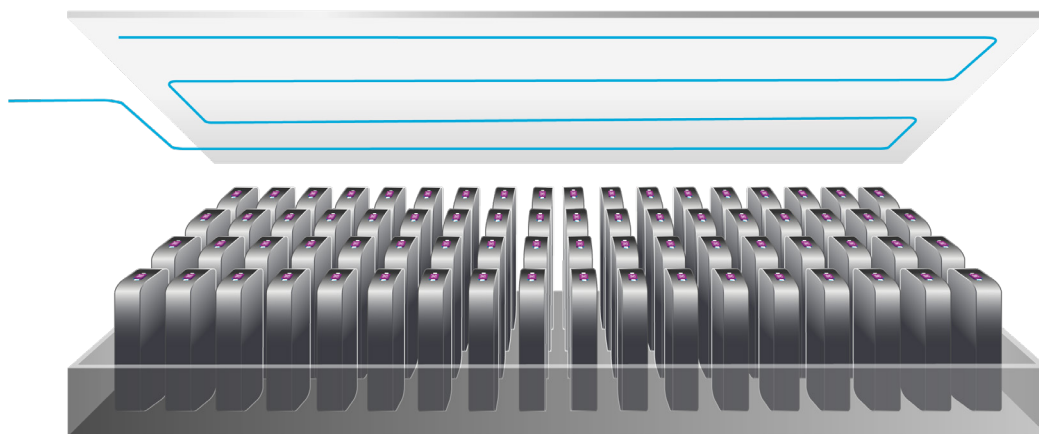
No. C-SynQ is our proprietary communication protocol that links Dukosi Cell Monitors installed on each cell, with the Dukosi System Hub placed within the customer's main controller platform of its BMS. Using Dukosi chip-on-cell technology with C-SynQ optimizes battery performance compared to other battery architectures.

How does C-SynQ compare with connectivity in a wired BMS?

Battery cell monitoring with C-SynQ is fundamentally different compared to traditional wired BMS systems that rely on complex wiring harnesses. Dukosi chip-on-cell solution with C-SynQ reduces weight, complexity, and avoids physical reliability problems of a wired BMS; eliminating wires and connectors improves reliability by up to 2X, and reduces component count by up to 10X.

How does C-SynQ compare with connectivity in a wireless BMS?

When compared to far field wireless BMS solutions, Dukosi chip-on-cell solution with C-SynQ provides a considerably more robust, wired-like connection that can effectively mitigate the typically harsh automotive electromagnetic (EM) environments. C-SynQ is fast, reliable and safe as it was designed from the ground up for battery communications. It does not suffer the same challenges, such as RF dead zones and inconsistent latency between distributed nodes and the centralized management controller. Far field wireless also requires a continual security investment to prevent unwanted remote access to the battery system.



Dukosi Ltd develops revolutionary technologies that dramatically improve the performance, safety, and efficiency of battery systems, and enable a more sustainable battery value chain. The company provides a unique cell monitoring platform based on chip-on-cell technology and C-SynQ® communications protocol for electric vehicles (EV), industrial transportation and stationary battery energy storage markets.

For more information, email info@dukosi.com or visit www.dukosi.com.