Battery Management Solutions for Energy Storage Systems

Texas Instruments

Overview

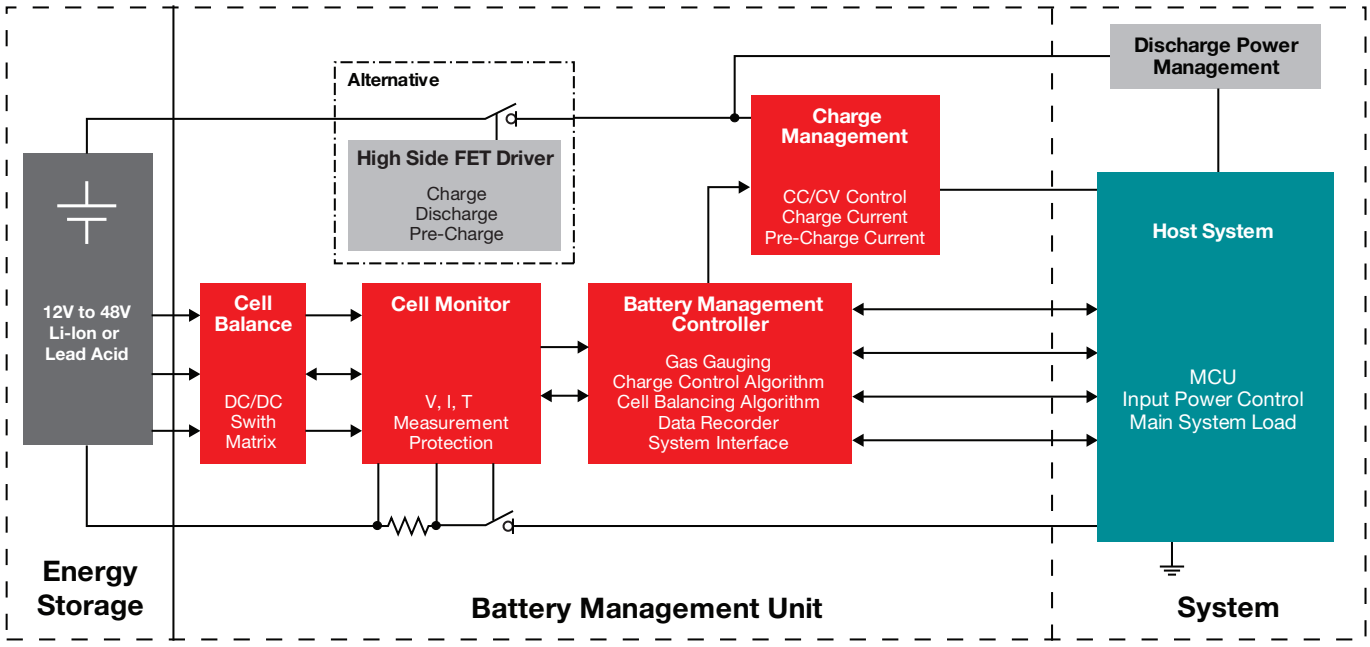
Energy Storage Systems generally consist of two types of applications, Emergency Energy Applications and Grid Storage Applications. Emergency Energy Applications are types of applications that require a secondary energy source as a backup after a primary source has been lost. In these particular applications, secondary power is required to perform a set of tasks for a minimum period of time. Grid Storage Applications, on the other hand, differ in that they require a secondary energy source that is required to provide power for a long period of time until the primary energy source is able to provide power again.

Broadest portfolio of Battery Management ICs

- Multi-Chemistry Gauges
- Monitors and Analog Front Ends (AFEs)
- Active Cell Balancing ICs
- Chargers
- Protectors

Application Types

- Enterprise Server Uninterruptable Power Supplies (UPS)
- Power Domain switching support
- RAID ‘cache-to-flash’ backup systems
- Load Leveling
- Grid Power



Monitors, Gauges, Protectors and Chargers

Device	Description	EVM
bq76920	3 to 5-series cell Li-Ion and Li-Phosphate battery monitor	bq76920EVM
bq76930	6 to 10-series cell Li-Ion and Li-Phosphate battery monitor	bq76930EVM
bq76940	9 to 15-series cell Li-Ion and Li-Phosphate Battery monitor	bq76940EVM
bq76PL536A	Li-Ion stackable battery monitor and secondary protection IC	—
bq77PL900	5 to 10-series cell Li-Ion battery protection and AFE	bq77PL900EVM-001
bq77PL157A	Voltage protection for 3 to 6-series cell Li-Ion/Polymer batteries	—
bq34z100	1s to 16s Impedance Track™ fuel gauge	bq34z100EVM
bq34z110	Wide-range fuel gauge with Impedance Track for lead acid batteries	bq34z110EVM
bq78350	Companion CEDV fuel gauge battery management controller	—
EMB1499Q	Bidirectional current DC/DC controller	EM1401EVM
EMB1428Q	EMB1428Q switch matrix gate Driver	EM1401EVM
bq24610	Stand-alone synchronous switch-mode Li-Ion or Li-Polymer charger with system power selector, low Iq	bq24610EVM

bq76940

Key Features

- Pure digital interface
- Internal ADC measures cell voltage, die temperature and external thermistor
- Hardware protection features
- Cell balancing
- Charge and discharge low-side NCH FET drivers

bq24610

Key Features

- Standalone charger
- 5V to 28V input voltage
- 1S to 6S Li-Ion or Li-Polymer
- Up to 10A charge Current and adapter Current

Visit **ti.com/battery** to sample products and download datasheets and design resources.

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