Battery Management Solutions for Point-of-Sale Systems

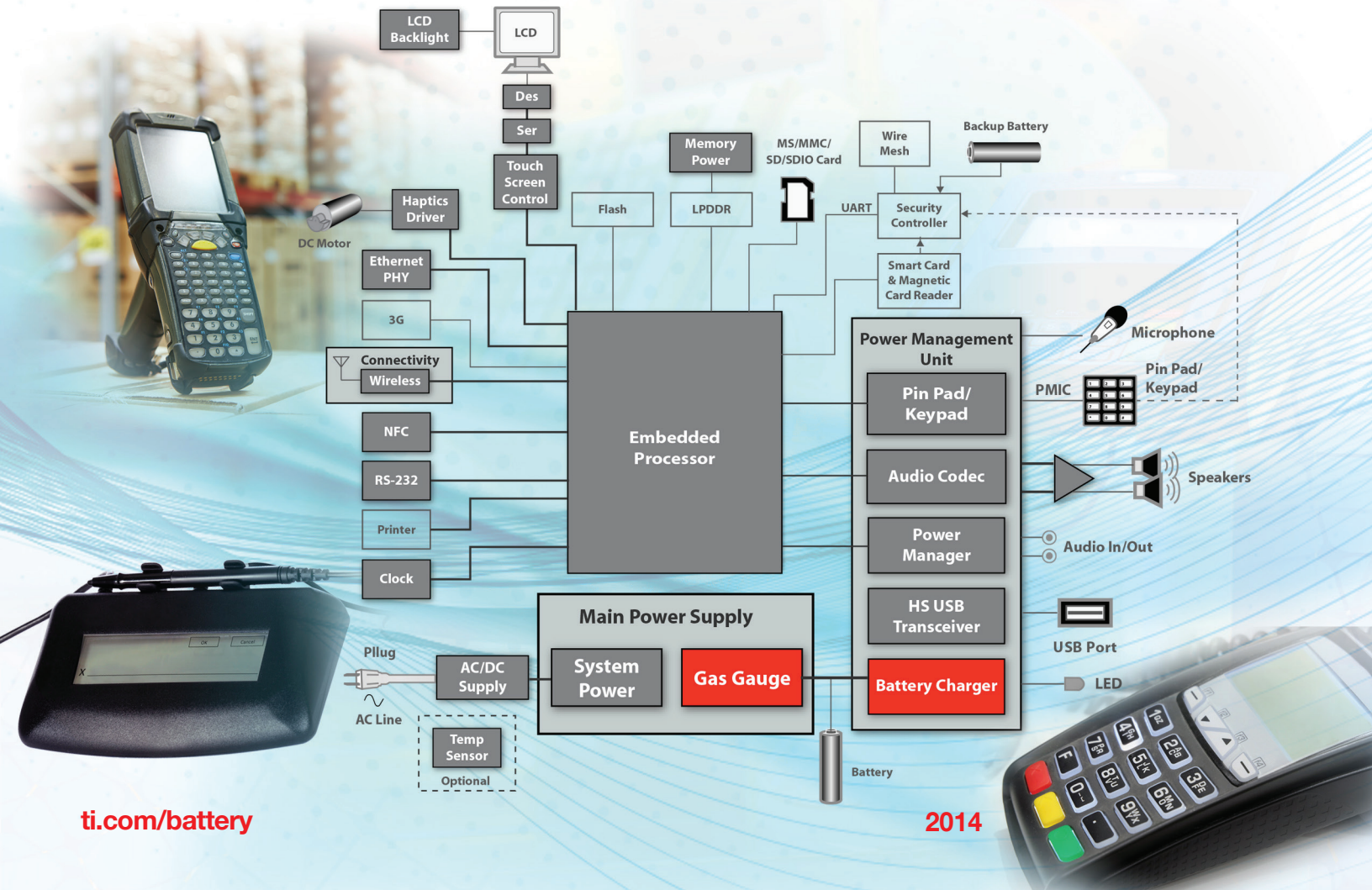
Texas Instruments

Overview

Retail, hospitality, and banking industry transactions processed by electronic Point-of-Sale (POS) equipment including card payment terminals and readers, pin entry devices, and handheld printers depend on accurate and reliable battery life. Texas Instruments provides high-performance battery management technologies with reliable, scalable, and power-efficient solutions for simple and complex POS systems alike. TI's space saving chargers, Impedance Track™ fuel gauges, standards-compliant wireless charging ICs, and Energy Harvesting solutions help portable POS systems by increasing runtime and allowing faster and cooler charging to simplify the design process and get to market faster.

Broadest Portfolio of Battery Management ICs

- Chargers, Fuel Gauges, Protection and Authentication ICs
- Smallest footprint, space-saving solutions for small form factors
- Very high-efficiencies allow more heat dissipation and longer battery run-time
- Reference designs, evaluation boards, and design tools available for rapid prototyping



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Featured Chargers

Device	Features and Benefits	Evaluation Modules
bq24133	Synchronous switch-mode Li-Ion and Li-Pol stand-alone charger with 2.5A integrated N-MOSFETs	bq24133EVM-715, 5V and 15V versions
bq24103A / bq24105	Highly-integrated synchronous switch-mode, Li-Ion and Li-Pol with Integrated 2A Power FETs	bq24103AEVM, bq24105EVM
bq24600	Standalone synchronous switch-mode Li-Ion or Li-Pol charger with low Iq	bq24600EVM
bq24610	Standalone synchronous switch-mode Li-Ion and Li-Pol charger with system power selector, low Iq	bq24610EVM, bq24610EVM-603
bq24040 / bq24090	1A, single-cell Li-Ion and Li-Pol charger	bq24040EVM, bq24090EVM
bq24072 / bq24073	1.5A USB-friendly Li-Ion charger snd power-path management IC	bq24072EVM, bq24073EVM
bq24250	2A I²C or standalone switch-mode Li-Ion charger with power-path management	bq24250EVM
bq24296 / bq24297	I²C-controlled 3A single-cell USB charger with power-path management and USB OTG	bq24296EVM-021, bq24297EVM-021
bq2000	Programmable NiMH / NiCd fast-charge management IC	bq2000
bq51025	10W Qi-compliant single chip wireless power receiver	bq51025EVM-649
bq500215	10W Qi-compliant wireless power transmitter manager	bq500215EVM-648

Featured Gauges, Protection, Monitors

Device	Features and Benefits	Evaluation Modules
bq27411-G1	Pack-side Impedance Track™ "light" fuel gauge and external Isense resistor	bq27411EVM-G1C, bq27411EVM-G1B
bq27421-G1	System-side Impedance Track fuel gauge with integrated sense resistor	bq27421EVM-G1A, bq27421EVM-G1B
bq27441-G1	1S, system-side Impedance Track fuel gauge	bq27441EVM-G1A, bq27441EVM-G1B
bq27520-G4	System-side Impedance Track programmable fuel gauge	bq27520EVM
bq27541-G1	Single-cell pack-side Li-Ion Impedance Track fuel gauge	bq27541EVM
bq27621-G1	System-side Impedance Track fuel gauge, no sense resistor required	bq27621EVM-G1
bq27545-G1	Single-cell pack-side Li-Ion fuel gauge in WCSP package	
bq20Z45-R1	SBS 1.1-compliant Impedance Track gauge and protector	
bq20Z65-R1	SBS 1.1-compliant Impedance Track gauge and protector, JEITA Compliant	bq20Z65EVM
bq3060	SBS 1.1-compliant gauge and protector with CEDV	bq3060EVM

Design Resources

Product	Description
Design Tools	bqStudio software universal development platform, includes gauging in five clicks. Available at **ti.com/batterytools**
Reference Designs	Reference design library for battery-powered devices feature gauges, chargers, protection and AFE designs. Search battery management designs at **ti.com/tidesigns**
Development Kits	See complete listing at **ti.com/batterytools**
Technical Training	Available on-demand at **ti.com/battery**. Battery Management University courses and Getting Started content in multiple languages
System Block Diagrams	Electronic POS applications, available at **ti.com/pos**

Chargers
- Faster, cooler charging
- 196 devices
- Energy Harvesting and Wireless Power options

Cell Monitor and Balancer
- Helps bring cells back to balance
- Overcharge, over-discharge, overtemperature protection

Authentication
- Performance and safety benefits for demanding systems
- For batteries and peripherals

Gauges
- Reports state of charge and state of health
  - 99% accuracy with Impedance Track™
  - Extends runtime and lifetime

Protection
- Independent cell, voltage, and temperature protection
- Secondary protector integrates comparators for overvoltage, undervoltage, overtemperature

For more information, visit **ti.com/battery**

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265