

# Battery Management Solutions for Point-of-Sale Systems

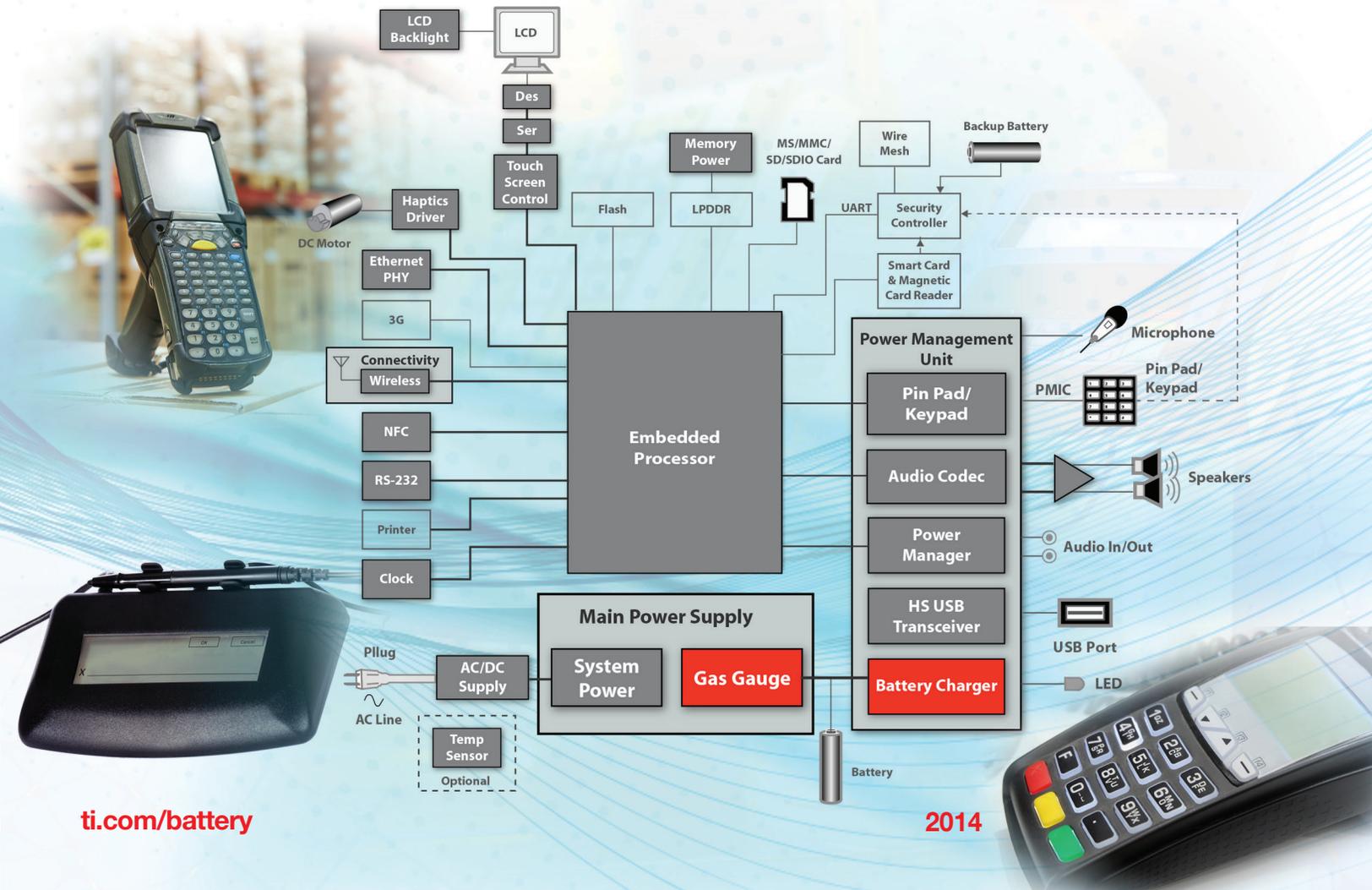


## Overview

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



# Battery Management Solutions for Point-of-Sale Systems

## Featured Chargers

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

## Featured Gauges, Protection, Monitors

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

## Design Resources

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

## 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](http://ti.com/battery)

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Interface	<a href="http://interface.ti.com">interface.ti.com</a>
Logic	<a href="http://logic.ti.com">logic.ti.com</a>
Power Mgmt	<a href="http://power.ti.com">power.ti.com</a>
Microcontrollers	<a href="http://microcontroller.ti.com">microcontroller.ti.com</a>
RFID	<a href="http://www.ti-rfid.com">www.ti-rfid.com</a>
OMAP Applications Processors	<a href="http://www.ti.com/omap">www.ti.com/omap</a>
Wireless Connectivity	<a href="http://www.ti.com/wirelessconnectivity">www.ti.com/wirelessconnectivity</a>

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Consumer Electronics	<a href="http://www.ti.com/consumer-apps">www.ti.com/consumer-apps</a>
Energy and Lighting	<a href="http://www.ti.com/energy">www.ti.com/energy</a>
Industrial	<a href="http://www.ti.com/industrial">www.ti.com/industrial</a>
Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
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