

Battery Fuel Gauge IC

R-BMS F

Easy-to-Start Solution for Li-ion Battery Management Systems

The R-BMS F (Renesas Battery Management System with Fixed Firmware) is a FIXED firmware solution for Renesas Battery Fuel Gauging IC (FGIC), which requires no additional firmware development. Using this solution, the battery management system (BMS) can be easily and quickly designed, and the time to market can be significantly reduced.



Easy-to-Use

- No programming knowledge required
- GUI base PC software (RSB_TOOL2)



Quick Design

- **No need for F/W design** (Pre-programmed to the EVM)
- **Adjustable parameters** (Using a dedicated tool)



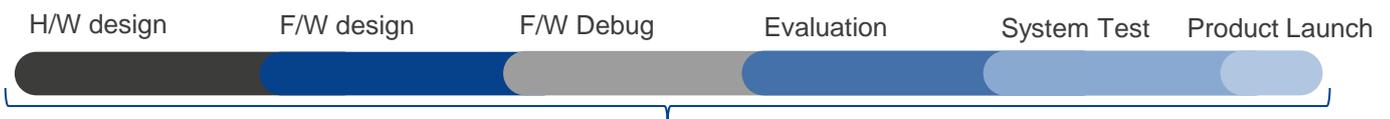
Safe System

- Pre-programmed safety functions
- Fuse Blow & software shutdown options

Accelerate time to market

Since the R-BMS F is a fixed firmware (integrated in the FGIC); it eliminates the need for F/W development and hence shortens the time to market.

Conventional Design Process



Design Process with the R-BMS F



Target Application



Power Tools



Handheld Electronics



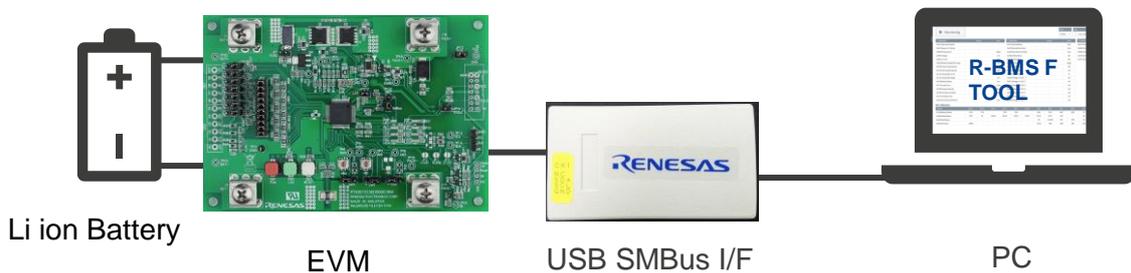
Vacuum Cleaner



Industrial

R-BMS F Outline

Evaluation System



R-BMS F Package

Hardware

- Evaluation Module (EVM)
- USB SMBus I/F
- Wires

Software

- GUI based PC software “R-BMS F TOOL” for Monitoring and Control
- Dedicated tool for Parameter setting

Firmware

- Voltage, Current, Temperature measurement
- FCC, RC, RSOC calculation
- Safety functions
 - Over/Under Voltage, Over/Short Current, Over/Under Temperature
- High-side Nch FET control

Documentation

- Manuals
- EVM schematic

FCC : Full Charge Capacity RC : Remaining Capacity RSOC : Relative State Of Charge

Comparison : Current solution vs R-BMS F

	Current Solution	R-BMS F
F/W Development	Necessary	Not necessary
Required Battery Knowledge	High	Low
Suitable Systems	Complex	Simple

R-BMS F F/W can't be changed.

R-BMS F Line-up

FGIC	Series Cells	Supply Voltage	Max. Current	IC PKG	Status
RAJ240100	3 to 10 Cells	4V - 50V	30A	LQFP64 10x10mm	Active
RAJ240090	3 to 8 Cells	4V - 50V	30A	LQFP64 10x10mm	Active
RAJ240055	2 to 4 Cells	2.2V - 25V	15A	QFN32 4x4mm	Active

R-BMS F EVM Kits are available via online channels.

About R-BMS F FW, tool and detailed manuals, contact your regional sales channel.

FGIC product information : <https://www.renesas.com/us/en>