

# ISL78714BMS5XBEKIT1Z

## User's Manual: BMS Reference Design Kit

### Battery Management System

To request the full user's manual, use the [ISL78714 request form](#).

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## ISL78714BMS5XBKIT1Z

### BMS Reference Design Kit

The ISL78714BMS5XBKIT1Z is a reference design kit that facilitates testing of the [ISL78714](#) Li-ion battery pack analog front-end ICs and the Renesas RH850 in an automotive Battery Management System solution. The RH850 communicates with the ISL78714 devices to monitor cell voltage, pack temperature and current, record significant fault detection, and control cell balance. The ISL78714 contains daisy chain hardware to provide robust, isolated communication between batteries. The RH850 includes interface to multiple CAN, LIN, UART, and RS485 buses and controls multiple PWM outputs.

The reference design kit operates as an example of a complete automotive battery management system for up to 70 series connected Li-ion cells.

### Key Features

- Monitors up to 70 series connected cells (five ISL78714 devices)
- Cell voltages can go negative to support busbar connections
- Four external temperature inputs per ISL78714.
- The board includes hardware and software for monitoring the cell voltages and pack current in a pseudo-simultaneous operation, providing all cell voltages and pack current within a 10ms acquisition window
- Provides up to 50mA of balance current using external balance FETs.
- Capacitively coupled on-board daisy chaining between each ISL78714 device.
- Host RH850 microcontroller communicates with BMS analog front end through Isolated SPI port
- 3 CAN bus
- 2 LIN bus
- 1 RS485
- 1 RS232 UART
- 6 PWM outputs
- 1 RS-232 UART (GUI) interface
- Real Time Clock
- GUI monitors operation through an RS-232 port. CAN bus monitoring is also available.

### Specifications

Host Supply (J7 on ISL78714BMS5XBEVAL1Z board)

- 12V/1A supply (10V to 16V)

Cell Supply (BMSREF-PS1-Z Board, J8, J1/J4, J2/J3)

- 10V to 60V

### Ordering Information

Part Number	Description
ISL78714BMS5XBKIT1Z	ISL78714BMS5XBEVAL1Z Battery Management System Reference Design kit

### Related Literature

For a full list of related documents, visit our website:

- [ISL78714](#), [RH850/P1M](#) device pages

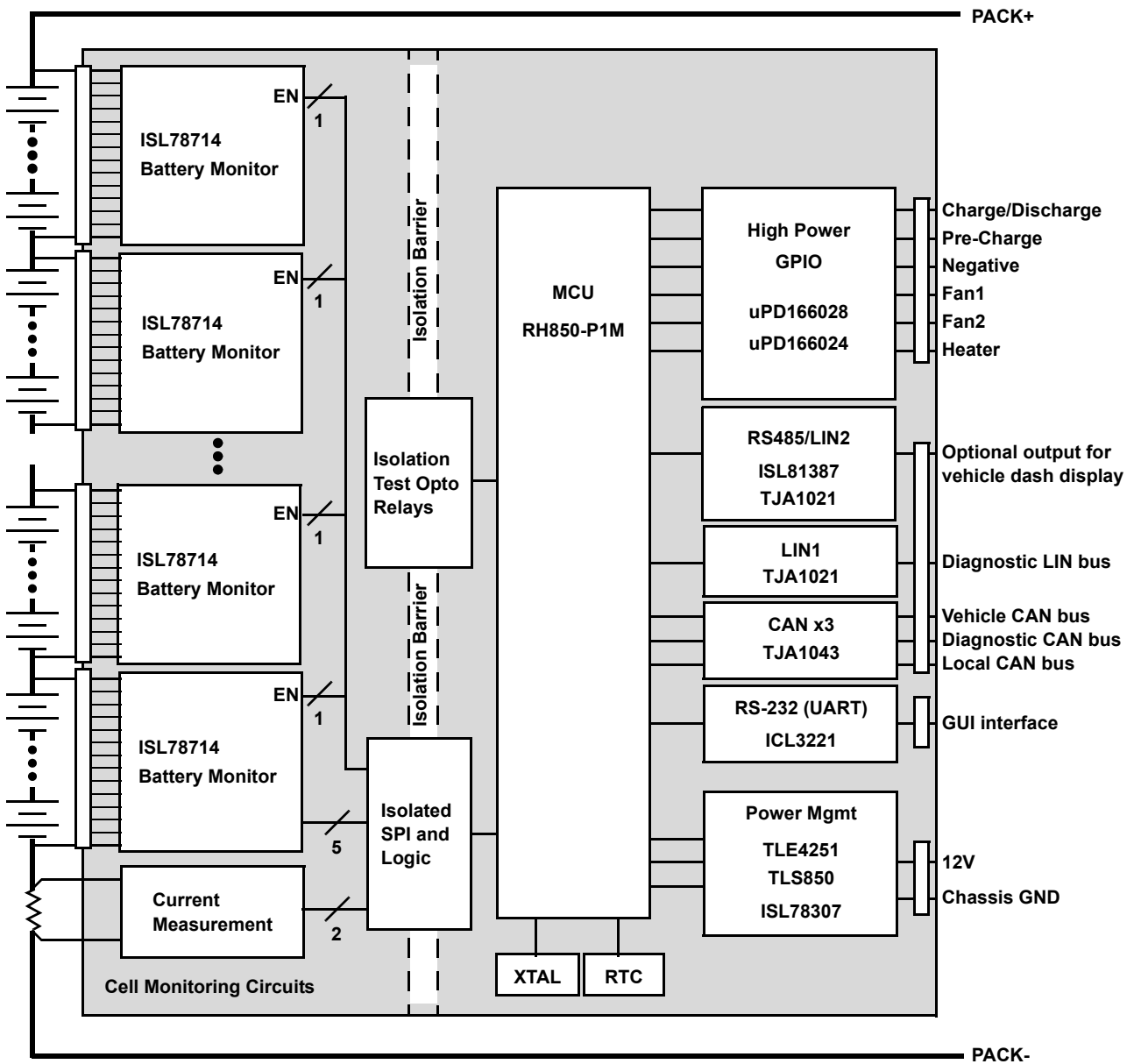


Figure 1. ISL78714BMS5XBKIT1Z Reference Design Block Diagram

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