



The Leader in Automated Test, Data Acquisition and Control Systems



BMS HIL Test System

Real-time battery pack simulation

The BMS Hardware-in-the-Loop (HIL) Test System is a high performance platform providing all necessary input signals used for battery pack simulation. A real-time operating system executes complex cell and pack models commonly used for BMS algorithm development, software and firmware regression testing.

FEATURES

- Over 200 cells of simulation
- Pack voltage simulation up to 1000 VDC
- Current and temperature sensor simulation
- BMS control I/O and communication simulation
- Fault insertion and auxiliary system measurements
- Custom cell and pack model integration (Simulink, C++, LabVIEW, etc.)
- Software application for manual operation, automated test, and reporting

APPLICATIONS

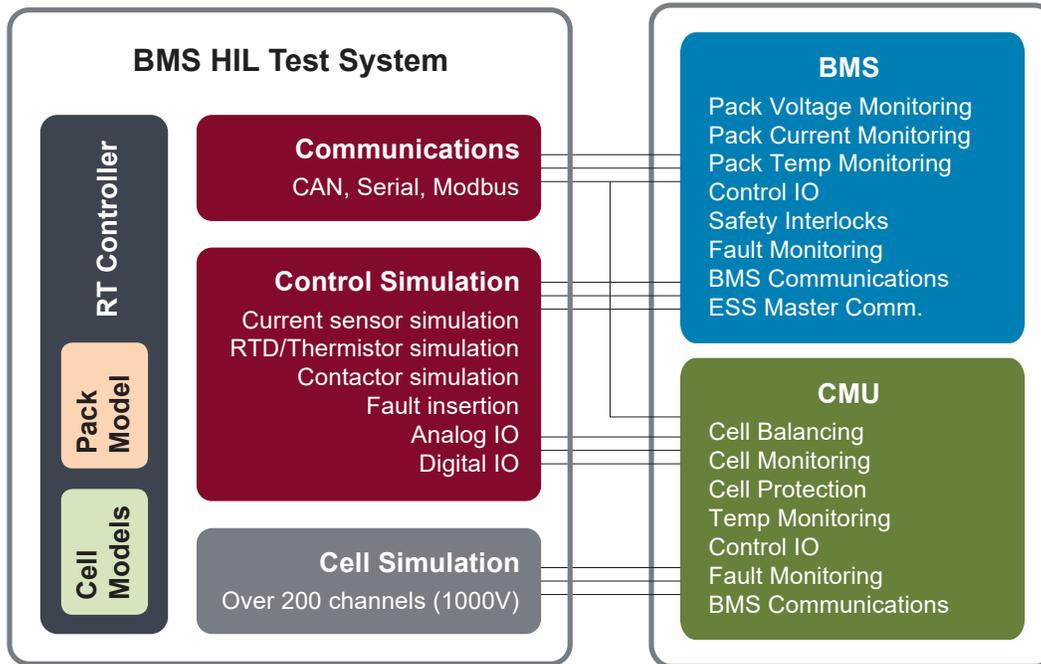
- Functional safety testing and tuning of BMS hardware, software and firmware
- Evaluating BMS balancing, responses, and tolerances
- Monitoring and evaluating a BMS during simulated drive cycles and load profiles

Need to perform ESS, HASS and HALT testing?

Inquire about Bloomy's BMS Environmental Test System.

SYSTEM DIAGRAM

The BMS HIL Test System is a modular platform, providing unique configurations to test BMS and module functionality for automotive and power grid applications.



HARDWARE SPECIFICATIONS

The following specifications are standard. Systems can be customized to accommodate specific requirements.

CELL CHANNEL SIMULATION		TEMPERATURE SENSOR SIMULATION		COMMUNICATION PROTOCOLS	
Number of Channels	12 / module	Typical Signal Type	Voltage or Resistance	Standard Protocol	High-speed CAN
Max number of Modules	20 (240 channels @ 4.2V)	Number of Channels	4 to 64	Number of Ports	2
Channel Type	Sink and Source	Range	1.5 ohm - 1.5M ohm, 0-10V	Baud Rate	40 kbits/s to 1Mbit/s
Voltage Range per cell	0.0 to 5.0V	Resolution	1 ohm, <1 mV	Additional Protocols	LIN, SPI, RS232, Modbus
Voltage Resolution	0.1 mV	Accuracy	1%	PACK VOLTAGE SIMULATION	
Voltage Accuracy	±3 mV	CURRENT SENSOR SIMULATION		Number of Channels	Up to 5 channels
Current Range	±500.0 mA	Typical Signal Type	Analog voltage	Voltage Range	up to 1000 VDC
Current Resolution	0.1 mA	Number of Channels	2 channel	Current Range	1.5 ADC
Current Accuracy	±4 mA	Range	±10V	Programming Accuracy	±0.25% of full scale
Current Limiting Accuracy	±10 mA	Resolution	16 bit	BMS CONTROL I/O	
Common Mode Isolation	1000 VDC	Accuracy	±0.5%	Number of Channels	24 input / 24 output
CELL CHANNEL READBACK		Additional Signal Types	CAN communications	Voltage Range	0 to 60V
Voltage Resolution	0.1 mV	BMS BUS VOLTAGE SIMULATION		Current Drive	150 mA
Voltage Accuracy	±3 mV	Number of Channels	2 channel	Common Mode Isolation	60V channel-to-channel
Current Resolution	0.1 mA	Voltage Range	0 to 60V		
Current Accuracy	±4 mA	Current Range	0 to 20A		
		Power Range	850W		



Platinum
Partner

HARDWARE-IN-THE-LOOP

Call 508-281-8288 or visit
www.bloomy.com