

RECONFIGURABLE INTEGRATED BATTERY FOR LAUNCH VEHICLE APPLICATIONS



Moog has a modular single string and redundant commercial energy storage system that is ideal for launch vehicle applications requiring thrust vector or control surface actuation solutions. The system is designed to limit the potential for thermal runaway events while supporting a flexible design that can be easily modified to support a number of applications. The system can be bundled with a charger to support multiple reuse missions.

KEY FEATURES

- Modular battery allows for single string or redundant configurations
- Solution can be provided with Moog's modular actuation and control offerings for a complete control system.
- Health and status monitoring for string: independent cell level voltages, state of charge, temperature, system level current, faults, and states
- Soft start capability integrated
- Adjustable over current protection and offline hardware breaker
- Integrated regenerative charging and dissipation capabilities
- Proven thermal runaway mitigation and robust cell level thermal management



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PERFORMANCE SPECIFICATIONS



Features	Low Power	Medium Power	High Power
Battery Type	High Performance Rechargeable, Lithium – Ion	High Performance Rechargeable, Lithium – Ion	High Performance Rechargeable, Lithium – Ion
Capacity	440 W-h	870 W-h	1300 W-h
Mass	22 lbs	39 lbs	55 lbs
Non Heated Operating Temp	0 to 50 °C	0 to 50 °C	0 to 50 °C
Heated Operating Temp	-40 to 50°C	-40 to 50°C	-40 to 50°C
Integrated Heaters	Optional	Optional	Optional
Component Grade	Class III (enhanced plastic/automotive or up screened plastic parts)	Class III (enhanced plastic/automotive or up screened plastic parts)	Class III (enhanced plastic/automotive or up screened plastic parts)
Battery Management System and Charging Controllers	Yes, Integrated	Yes, Integrated	Yes, Integrated
Safety Features	Temperature, current, voltage, short chassis	Temperature, current, voltage, short chassis	Temperature, current, voltage, short chassis
Configuration	48S1P, electrically independent string	48S2P, electrically independent string	48S3P, electrically independent string
Operating Voltage	125V to 202V	148V to 202V	148V to 202V
Continuous Discharge Current	33A	66A	100A
Max Discharge Current (<20ms)	50A	100A	150A
Avionics Input	22-34V, 6W	22-34V, 12W	22-34V, 17W
High Voltage Output Interlock	Yes	Yes	Yes
Communication Scheme	RS422	RS422	RS422
Regenerative Charging	Yes	Yes	Yes



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