

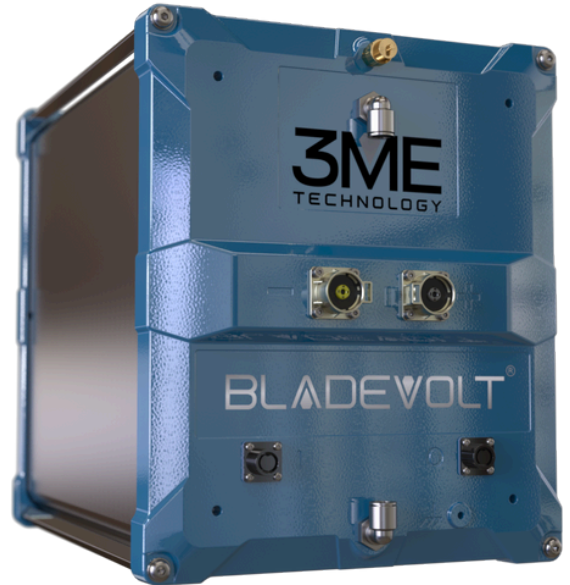
BLADEVOLT®

BATTERY SYSTEM

The BladeVolt® represents a cutting-edge battery system, renowned for its exceptional safety features. It is designed to be customizable and scalable according to the unique requirements of each customer. This system is available in two variants:

Modular – This is a pre-assembled ‘module’ system that comes with specified voltages.

Custom – Designed to suit the customers performance, space and environmental requirements.



KEY FEATURES

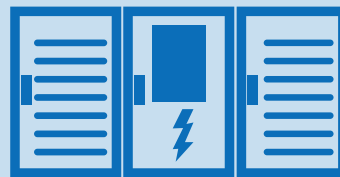


Installation / Plug & Play

- Flexible
- Scalable
- Maintainable at a module level

Self - contained

- Module level monitoring of key performance criteria
- CAN ready
- Immersive cooling technology



High Capacity

- Scalable capacity
- Increased voltage applications
- High energy and power options



Low / No Maintenance

- Improved reliability while adhering to safety requirements.
- The advanced immersive cooling technology provides consistent temperature management, which improves both the longevity and efficiency of the battery.



Safety

- Advanced immersion technology with safe, stable and environmentally friendly fluids.
- Prevention of thermal runaway (fire) events through proprietary methods.
- SIL rated isolation to meet mining safety requirements.

Typical Module Specifications

	High Current Cells	High Energy Cells
Input voltage range	9 to 32 V dc	9 to 32 V dc
Configuration	20S1P	20S1P
Module Capacity	6.29 kWh	7.62 kWh
Module Voltage	74 V dc	74 V dc
Cell Capacity	85 Ah	103 Ah
Wh per kg*	150 W	150 W
Wh per litre*	170 W	170 W
Continuous Discharge Current**	300 A	206 A
Max Discharge Current***	680 A	206 A
Max Charge Current***	255 A	103 A



COMMON SPECIFICATIONS	
Communication	CAN, Bespoke communication protocol available pending application.
Configuration	Custom BMS parameters and configuration to meet customer requirements.
Fuse	Customer defined, within battery performance capability.
Cycle Life	6000 cycles @ 80% DoD
IP Rating	IP67

THERMAL MANAGEMENT	
Type	Immersive Cooling Technology
Coolant	Specialised fluid
Life Cycle Management	Cells immersed within coolant promote an even distribution of heat, increasing cell cycle life.



Environmental Considerations

PARAMETER	Range
Discharge Temperature	-20°C to 55°C
Charge Temperature	0°C to 45°C
Battery Ambient Temperature discharging range	-40°C to 70°C
Battery Ambient Temperature charging range	-40°C to 70°C
Storage Temperature: 1 Year	-20°C to 25°C
Storage Temperature: 6 Months	-20°C to 35°C
Storage Temperature: 3 Months	-20°C to 45°C
Storage Temperature: <1 week	-20°C to 60°C

*variable enclosure material available such as Aluminum, Carbon Fibre, Stainless Steel options

**Higher continuous discharge limit is available in other module configurations

***higher limits are possible with the appropriate thermal management and based on module specification. 3ME Technology encourages a discussion around fit for purpose solution

BladeVolt Customised System

Chassis System, scale - up, custom built

CUSTOM SYSTEM SPECIFICATION	
Input voltage range	9 to 32 V dc
Pack voltage	Flexible and tailored to user needs.
Cell type	Chemistry agnostic, pouch cells.
Configuration and Scale up	Customised pack size and BMS configuration to meet the application. System architecture allows for efficient and easy scale-up.
Wh per kg	166 W
Wh per litre	178 W
Form Factor	As per user requirements.

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Please note that the above temperature ranges are achievable through BVII capability when integrated with a thermal management system appropriate for the application and its environment.

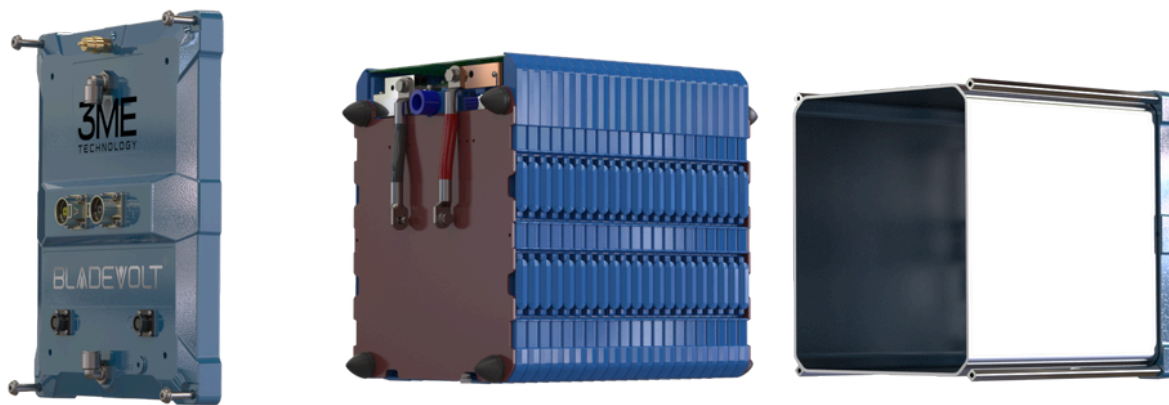
Reductions in this range may be required under certain extreme ambient temperature and duty cycle scenarios.

<https://3me.technology/>

Bladevolt.com



Typical Module Architecture



LIFECYCLE

Bladevolt Lifecycle

Production, operation, second life and recycling

