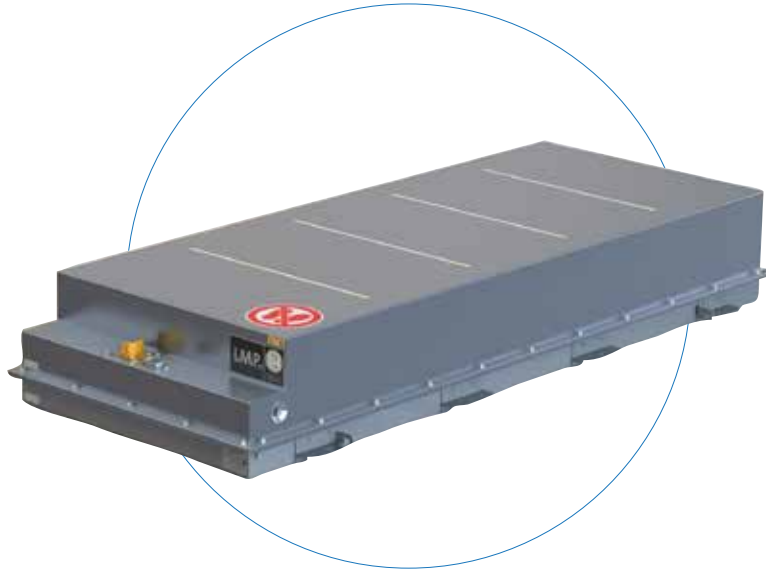


Pack LMP® 63



LMP® (LITHIUM METAL POLYMER) TECHNOLOGY, UNIQUE ALL-SOLID-STATE BATTERY

The LMP® technology is the result of an ambitious research and development program started more than twenty years ago. Made of thin films produced using extrusion techniques perfected by the Bolloré Group, LMP® batteries stand out by their high energy density, safety of use, and performance.

Their all-solid-state construction provides them many advantages in terms of efficiency and safety:



SAFETY AND ROBUSTNESS

- No thermal runaway thanks to its solid-state construction
- No risk of fire
- No risk of leakage or off-gassing
- More than 300 million kilometers covered by cars and electric buses since 2011
- No cooling system needed
- Strong warranty: No temperature or average SOC provisions



INSENSITIVE TO CLIMATE CONDITIONS

- LMP® batteries support extreme temperatures without any cooling system, leading to enhanced performance, greater reliability and simplified maintenance
- Easy transport and storage, even in hot external conditions, with no effect on the battery lifespan



HIGH LONG TERM PERFORMANCE

- A stable storage capacity throughout the battery lifespan
- A DC/DC efficiency up to 98%, regardless of the outside temperature
- A lifespan of up to 4,000 depending on the application
- Withstands free floating (100% charge) with no damage to the battery
- High energy density



ENVIRONMENTALLY-FRIENDLY

- Contains no solvents
- Cobalt and nickel free, leading to an optimized LCA
- High recyclability thanks to the use of lithium in metallic form

Characteristics: Pack LMP® 63

Electrical specifications	
Cells	LMP® (Blue Solutions)
Energy	63 kWh
Battery round trip efficiency (DC-DC)	Up to 98%
Available SOC	0% - 100%
Rated voltage	600 V
Voltage range	450 V - 648 V
Nominal charge	C/5 (12.6 kW)
Nominal discharge	C (63 kW)
Number of modules per pack	9
Mechanical specifications	
Dimensions (W x D x H)	2,010 mm x 870 mm x 311 mm
Weight per battery module	42 kg
Total weight	450 kg
Operating Conditions	
Operating temperature	-30°C to +65°C
Humidity	0 - 100%
Cooling of battery	No need for cooling
Cooling of control of electronics	Forced air
Maximum altitude	2,000 m
Storage conditions	
Storage temperature	-40°C to +85°C
Storage time	12 months
Humidity	0 - 95%
Certificates/norms	
Electrical regulation	R-100
IP rating	IP69K, IPXXB
Electromagnetic compatibility	R-10
Transport certification	UN 3090
Production certification	IATF 16949

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Over more than twenty years of R&D and based on its expertise in paper and ultra-thin plastic films, BlueSolutions has developed batteries and energy storage solutions based on a unique advanced technology: the LMP® battery (Lithium Metal Polymer). At a time when energy transition and energy access for all have become major issues for citizens, and governments, BlueSolutions relies on its expertise to design, develop, manufacture, and market complete solutions for the production, storage and intelligent management of energy.

Spread over two production sites in France and Canada, Blue Solutions employs more than 300 researchers, engineers and technicians for the development and production of the LMP® batteries.