

bluestorage

Blue LMP[®] 250 and Blue LMP[®] 400



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: without provision clause on temperature nor on average SOC



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

- No capacity degradation : a constant 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 cycles depending on the application
- Withstands free floating (100% charge) with no damage to the battery



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: Blue LMP® 250 and Blue LMP® 400

Electrical specifications	250	400
Cells	LMP® (Blue Solutions)	
Energy (@ C/4 - D/2)	252 kWh	392 kWh
Battery round trip efficiency (DC-DC)	Up to 98%	
Available SOC	0% - 100%	
Rated voltage	821 V	958 V
Voltage range	600 V - 888 V	756 V - 1 022 V
Nominal charge	C/4 (63 kW)	C/4 (98 kW)
Nominal discharge	C/2 (126 kW)	C/2 (196 kW)
Number of modules per string	12	14
Number of strings	3	4
Max charging current (continuous/30s)	78 A/252 A	105 A/335 A
Max discharging current (continuous/30s)	156 A/450 A	210 A/450 A
Overvoltage protection	4 kV	
Mechanical specifications		
Dimensions (W x D x H)	1,995 mm x 1,025 mm x 2,310 mm	2,220 mm x 1,025 mm x 2,870 mm
Weight per battery module	42 kg	
Weight per rack	≈ 740 kg	≈ 920 kg
Total weight	≈ 2,250 kg	≈ 3,270 kg
Operating Conditions		
Operating temperature	-20°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	
Seismicity	Eurocode zone 4 (class E ground, building type IV) ¹	
Maximum wind speed	180 km/h	
IP rating	IP54 / NEMA 3R	
Corrosion	Aluminum covering, no corrosion	
Storage conditions		
Storage temperature	-20°C to +65°C	
Storage time	12 months	
Humidity	0 - 98% (non condensing)	
Certificates/standards		
Markings	CE, UL	
Standards	UL 1973 (end of 2019), UN 38.3, IEC 61000-6-2, IEC 61000-6-4, UL 991, IEC 62619	
Directives	BattG 2006/66/EG, ROHS, REACH, WEEE	
Certifications (manufacturing plants)	ISO 9001, ISO 14001	

¹ dedicated analysis required for zone 5

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SCALABLE ALL-SOLID-STATE ARCHITECTURE

Blue LMP® 250
Floor area: 17.5 m²
Total MWh: 2 MWh

Blue LMP® 400
Floor area: 19.4 m²
Total MWh: 3.1 MWh

Bluestorage is part of The Bolloré Group, a large family business with more than 85,000 employees in 143 countries with a 24-billion euros yearly turnover. Bluestorage promotes and sells energy storage solutions which integrate LMP® batteries, manufactured in our factories in France and Canada by BlueSolutions.

15
countries

Operational applications in 15 countries

30
off-grid installations in Africa

30 Off-grid installations deployed in Africa since 2014

300
million kilometers

Traveled by our EV and buses across the world

www.blue-storage.com
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