



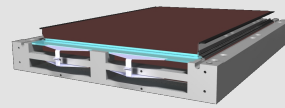
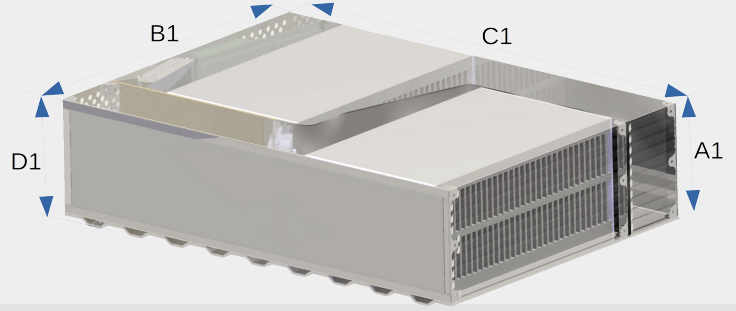
ULTRA HIGH EFFICIENCY COOLING, WITH 1% OF THE ENERGY STORAGE

85-215 BLOCK

Lithium power block

215 KWh / <24 °C

Integral cooled battery pack
Intensive energy storage buffer
BESS Industry



INDUSTRIAL AS A LAB

Blue Brand Power BLOCK “BBBK” insure the power supply and energy storage in extreme conditions, beside the power backup.

Power stability for emerging green energy and continuously supply on request.

MEDIUM HIGH DENSITY

New LiPO “BBBK” have a respectable energy density of 162Wh/l, all in, with integral cooling forced ventilation and BMS.

SCALABILITY

The “BBBK” are 85KWh, 128KWh, 215KWh and containerized, 2.28 MWh energy storage at 24ft marine containers.

Phone: +40 763 905 260
raul.risco@bluebrand.org

Proudly produced in EU



DESIGNED FOR STORAGE

The lithium batteries give the best of the chemistry at specific LAB conditions, that we made in the practice, in production, at the perfection, for safety first, then for life cycles.

Charge / discharge 3 hrs (0.33C), max charge 96%, max discharge 5%, integral cooling per cells at <24 °C, temp probe per cell.

POLYVALENT ASSEMBLY

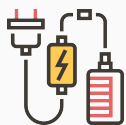
We get the best from any Lithium Cells, LiPO, NMC, LTO etc, and we made the pack for heavy duty task but, for safety first.

LITHIUM CELL'S

Proprietary technology on cooling and twin cells serial, single cell cooling, single live monitoring and single temperature probe.

Bluebrand.org

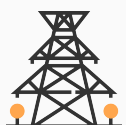
Advantages



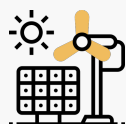
Charge / discharge at requested high load time, works as Energy Storage in Lithium Battery and power supply flexible output, scalable.



Live time control and monitoring, Scada and 5G encrypted embedded unix / linux system



Operator can maintain the electric grid in the safest operation standard.



Full compatible with renewable energy and AC/DC DC/DC inverters, integrated BMS and solar source.



Full compatible with all communication way and controllers, power management, live monitoring and thermal status.



Long life operation > 16 years at two cycles per day in energy storage, energy buffer and power backup at entire 215kWh scalable, containerized design for total 7800 cycles.



Operation under low temperature with self forced cooling at internal direct cell surface in homogeneous heat dissipation and heat exchange, at internal core <math>< 24\text{ }^\circ\text{C}</math>



Money saving at cost effective with cooling system at 1% of energy storage, from 0.42EUR per Watt.



DC to DC system from source to supply, flexible conversion DC/AC, at requested linear power supply 1024V $\pm 15\%$, from 85.8KWh per battery block up to 2.28MWh, scalable.





		BB-BLOCK-85	BB-BLOCK-128	BB-BLOCK-215
Electrical	DC Voltage	307 V	460 V	716 V
	Duration	3+ hrs / over duty 2+ hrs	3+ hrs / over duty 2+ hrs	3+ hrs / over duty 2+ hrs
	Installed DC Energy Capacity	86.6 kWh	129.5 kWh	215 kWh
	Rated DC Ampere per hour	>280Ah		
	DC Energy Capacity @ Rated Power	85 kWh	128kWh	212 kWh
	Duration @ Rated Power	0.33C / over duty 0.5C	0.33C / over duty 0.5C	0.33C / over duty 0.5C
	Conversion	43 kW linear	65 kW linear	105 kW linear
	Daily Aux Energy per Stack	1.2 kWh	1.4 kWh	2.2 kWh
	Daily Aux Energy per Stack, AC Cooling ⁵	10.2-16 KBTU Cooling 24hrs		12-20 KBTU Cooling 24hrs

Performance	Cycle Life ⁶	7.800 cycles	7,800 cycles	7,800 cycles
	Calendar Life	20 years		20 years
	Cell Model	BB4720 LF280K	BB4720 LF280K	BB4720 LF280K
	DC Round Trip Efficiency @ Rated Power	95%	95%	96%
	Cell Chemistry	Lithium Iron Phosphate (LFP)		
	Cell Operating Temperature Range	20 - 25° C		
	Depth of Discharge	98%		
	Auxiliary Power Input	3-phase 0.4KV AC / 60 Hz / 50 Hz option available		

Safety	Codes & Compliance	UL 9540A, UL 1642, UL 1973, UL 9540, NFPA 1, NFPA 69, NFPA 855, IFC, IEC 62619, IEC 6100-6-2, IEC 62477, UN3480, UN38.3		
	Over duty	15% of cycles total		18% of total cycles
	Explosion Prevention & Mitigation	Off-gas detection with dedicated, fail-safe active & passive ventilation systems		
	Cooling	Forced air / liquid		
	Conversion	AC/DC DC/AC power IGBT		
	Ambient Operating Temperature	0 - 45° C		
	Daily Cycles Duty	2 cycles per 24hrs at 0.33C		
	Modular scalable	Yes x 8 BB BLOCK's of identical parts		

Note: Specifications in the above table are design estimates only and are not guaranteed. Contact Blue Brand for a project-specific estimate as final values depend on system design, location, and use case;

1 Per acre energy capacity represents fully installed AC BESS, including inverters, transformers, and auxiliaries; excludes augmentation;

2 Energy capacity is recorded at the DC terminal;

3 End of life depends both on BESS age and usage; actual lifetime may be less than 20 years;

6 Degree of HVAC redundancy (partial or full) depends on location and use case;

7 IP rating applicable only for the compartments containing batteries and electronics;

8 Master Controller may automatically derate power at high/low ambient temperatures or after extended operation to maintain proper cell temperatures.

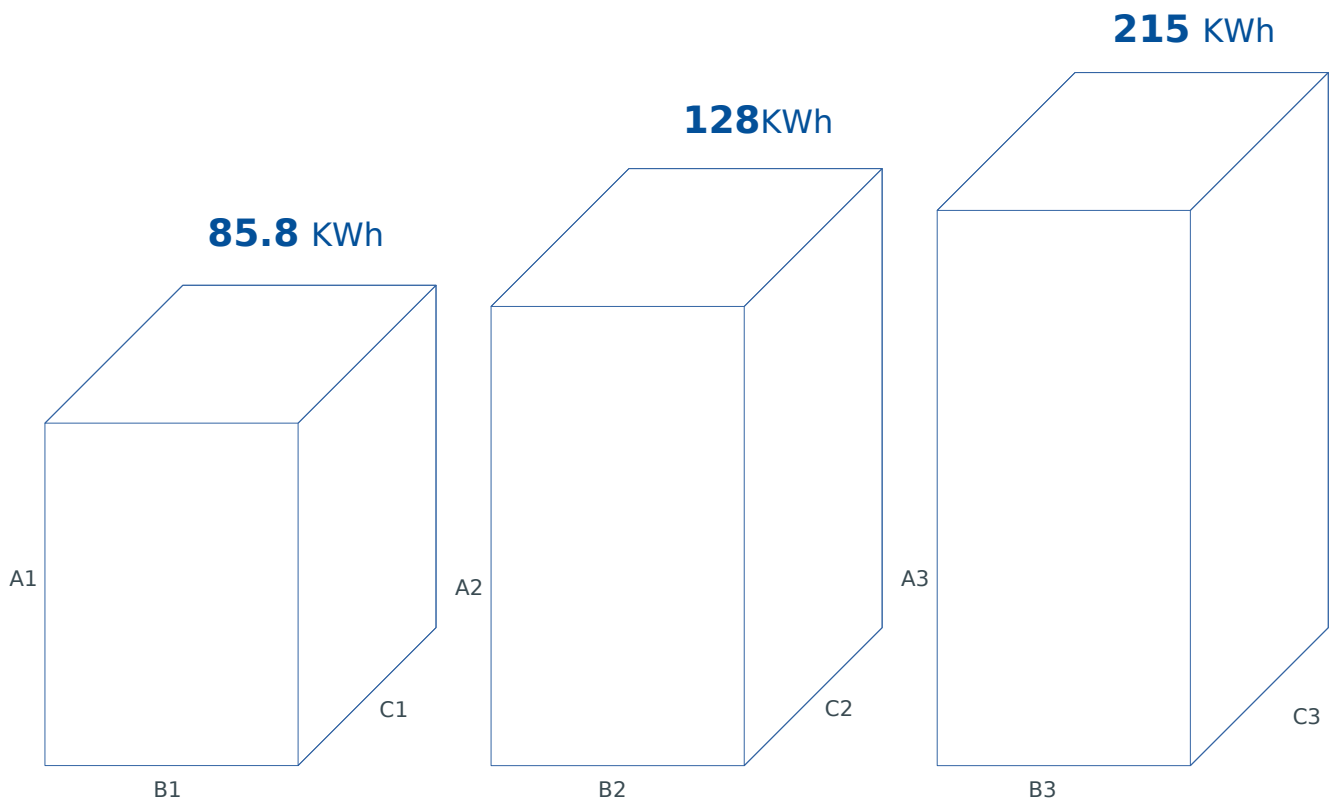




	BB-BLOCK-85	BB-BLOCK-128	BB-BLOCK-215	
Mechanical	Weight (Approximate)	864 kg	1080 kg	1748 kg
	Enclosure Dimensions	1641x1200x923 (mm)	2195x1200x923 (mm)	2749x1200x923 (mm)
	Enclosure Type / Rating	NEMA 1 / IP20		
	Auto Discharge 30 days	5% / of duty temp. control		

Density	Energy Density	47.22 Wh / liter	53 Wh / liter	66.66 Wh / liter
	Power Density 0.5C	23.6 Wh / liter	26.6 Wh / liter	33.33 Wh / liter
	Lithium Modules Energy Density	161.92 Wh / liter & 178.75Wh / Kg		
	Block Energy Density per Kg	99 Wh / Kg	118.5 Wh / Kg	123 Wh / Kg

Software	BMS + EMS + Solar + Environmental Controls	BB-OS™
	Reporting + Optimization + Data Warehouse	BB-OS™
	First Responder HMI	Open SCADA™
	Communications Interface	Modbus TCP (MESA/Sunspec) & REST AP & BT-V3-Node



A1	B1	C1	A2	B2	C2	A3	B3	C3
1641 mm	1200 mm	923 mm	2195 mm	1200 mm	923 mm	2749 mm	1200 mm	923 mm