



VOLTEBANK

GREENer-94

Product Datasheet

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Greener 94 kWh

A battery pack with an advanced functional safety system

Greener 94 kWh application scope is broad and mainly consists of maintaining a large amount of energy over time and using it whenever needed. Its capacity and configuration allow for devices and systems with high current loads (up to 160A) to use the energy.

Greener 94 kWh can communicate with other power system components through the CAN protocol, providing work parameters such as available charging/discharging load, SOC, maximum and minimum cell temperatures, thanks to its built-in, dedicated, and advanced functional safety and BMS systems. This allows for efficient integration with existing systems, and remote communication is also possible through the CAN protocol (GSM, satellite communication).

The advanced functional safety system of Greener 94 kWh ensures high safety standards regardless of the other elements in the power access architecture configuration. Its built-in algorithms, programmed based on the characteristics of individual cells of Greener, provide top-class safety, completely eliminating potential problems resulting from an incorrect configuration of the entire power supply system with which it has been integrated. Greener 94 kWh is a maintenance-free device, and Voltbank provides training for personnel dedicated to monitoring its operation.

Examples of Greener's applications include:

1. Photovoltaic systems for storage of electric energy produced by panels during the day and supplying it at night or on cloudy days;
2. Wind power systems for storage of electric energy generated by turbines when it's windy and supplying energy when it's not;
3. Backup power supply systems in the event of an outage or power failure;
4. Lighting systems for providing backup energy to illuminate production halls, warehouses, and public facilities (such as hospitals) in case of power failures;
5. Cooling warehouses, air conditioning systems, and steam-generating systems for maintaining and supplying energy to systems during peak hours or in case of power outages;
6. Water treatment systems, monitoring, protection, and supervision of facilities, providing power to devices requiring a constant source of electric energy;
7. Industrial systems for providing power to devices requiring large amounts of electric energy or continuous power supply for the production process;
8. Electric vehicles, boats, ships, and yachts charging;
9. Managing electric energy depending on supply-demand and energy prices.

For comparison, Greener 94 kWh can power and charge on daily basis:

- At least 17 households in the city or 19 households in the countryside with a living area of 70 m² per apartment,
- At least 20 three-person households or 30 one-person households,
- Up to 2 full charges of electric cars.

Greener 94 kWh can be configured with any hybrid inverter.

Greener 94 kWh emits a maximum temperature of 18°C to the environment, significantly lower than standard gasoline generators.

A master GREENer-94 can have up to five masters GREENer-94.

1. General

Product type:	Battery pack
Cell type:	Cylindrical INR2170

2. Pack characteristic

Properties	Value	
2.1 Dimension	895 mm x 600 mm x 1050 mm	
	w/o liquid thermal conditioning	with liquid thermal conditioning
2.2 Weight	651 kg	659 kg
2.3 Cell configuration	28p192s	
2.4 Number of Modules	8	
2.5 Module configuration	1p8s	
2.6 Energy storage nominal capacity *	~94 kWh	
2.7 Nominal capacity *	~134 Ah	
2.8 Usable capacity (with ~85% DoD) **	~80 kWh	
2.9 Nominal voltage	691 V	
2.10 Maximum voltage ***	799 V	
2.11 Minimum voltage ***	547 V	
	w/o liquid thermal conditioning	with liquid thermal conditioning
2.12 Max. allowed discharge current ****	25 A	173 A
2.13 Max. allowed charge current ****	25 A	134 A
2.14 Recommended charge current for life ****	25 A	67 A
2.15 Operating temperature while charging	10 °C +40 °C	-20 °C +50 °C
2.16 Operating temperature while discharging	10 °C +40 °C	
2.17 Operating altitude	Up to 4000m above mean sea level	
2.18 Operating cycles under standard operative conditions for batteries: room temp. 25 °C, 40% humidity, DoD 80%	8000	

* At beginning of life at room temp and with C/5 discharge rate

** Customizable with software change

*** Corresponding to the upper safety voltage limit

**** Cell temperature & SOC limitations apply

3. Interface description

Description	Value	Notes
3.1 High voltage connector	AMP HVP 800	Battery main +/- terminals
3.2 Low voltage connector	Harting auxiliary power and signal interface	KL30, KL15, GND, HVIL, Emergency stop, CAN bus, Modbus/TCP, Ethernet, ID config pins, External contactors control and feedback inputs
3.3 Grounding point	Thread M6	Cable plug 25 mm ²
3.4 Coolant connectors	G3/4" CEJN series 587 quick connectors	<4 bars (recommended <2.5 bars) Female Inlet, Male Outlet

4. Communication architecture & healthy monitoring

Description	Value
4.1 Application communication	CAN-bus (SAEJ1939) or Modbus/TCP
4.2 Pack system control & monitoring	Dedicated own system with built-in functional safety and real time parameters monitoring: <ul style="list-style-type: none"> - battery voltage - battery current - highest temperature - lowest/highest cell voltage - max/min SOC control - available charging/discharging current - contactor's state

5. Contact

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