

GreenBattery Container



GreenBattery Container

Features

Mega-Guard GreenBattery Container is an advanced electric energy storage system (EES) to be placed on board of ships. It can serve as a replacement of a diesel generator in applications requiring additional or redundant power (e.g. on DP2 vessels) during certain operations. In addition, it can be used for emission free sailing on electric propelled ships.

A GreenBattery Container follows the class rules as required for a battery room on board of ships. So it includes fire detection and extinguishing, fire blocking, air conditioning etc.

GreenBattery Container is basically available in two versions:

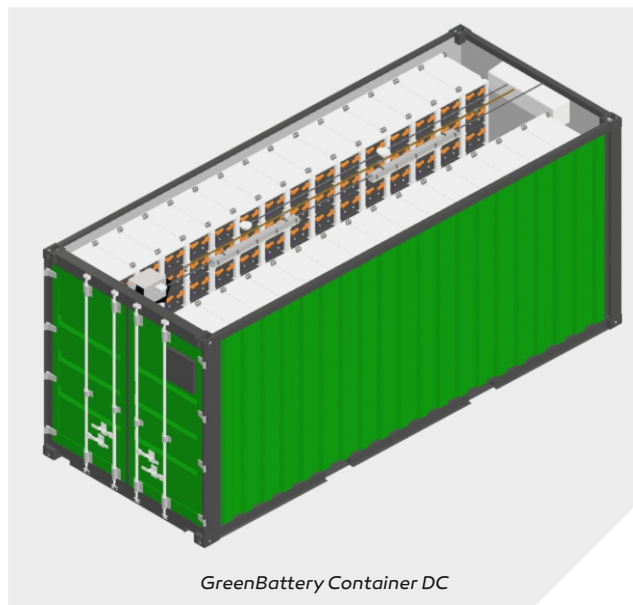
- ▶ GreenBattery Container AC:
With 3 phase 690VAC or 440VAC connection and acting as a generator of up to 1MW during discharge mode. Up to 2 MWh storage can be provided in a standard 20ft container.
- ▶ GreenBattery Container DC:
With 960VDC and up to 1250A charging / discharging current. Up to 2.4MWh storage can be provided in a standard 20ft container.

GreenBattery Container AC is divided in two separate compartments: battery compartment and an AC compartment.

The battery compartment (AC and DC version) is filled with GreenRacks with up to 8 GreenBatteries each. Battery strings with 10 Greenbatteries are wired to a GreenBMS which is installed at the bottom of a GreenRack. GreenBatteries can be installed and/or exchanged making use of the middle section of the container.

The AC compartment (AC version only) contains a GreenInverter with a L-C-Transformer combination to form a grid of 690VAC or 440VAC.

The container is cooled or heated via a chilled or heated water connection on the outside of the container. Temperature regulation is built-in the container to an ambient temperature of 22°C. Optionally, an externally mounted air to water heatpump can be supplied as a source of the chilled and heated water connection.



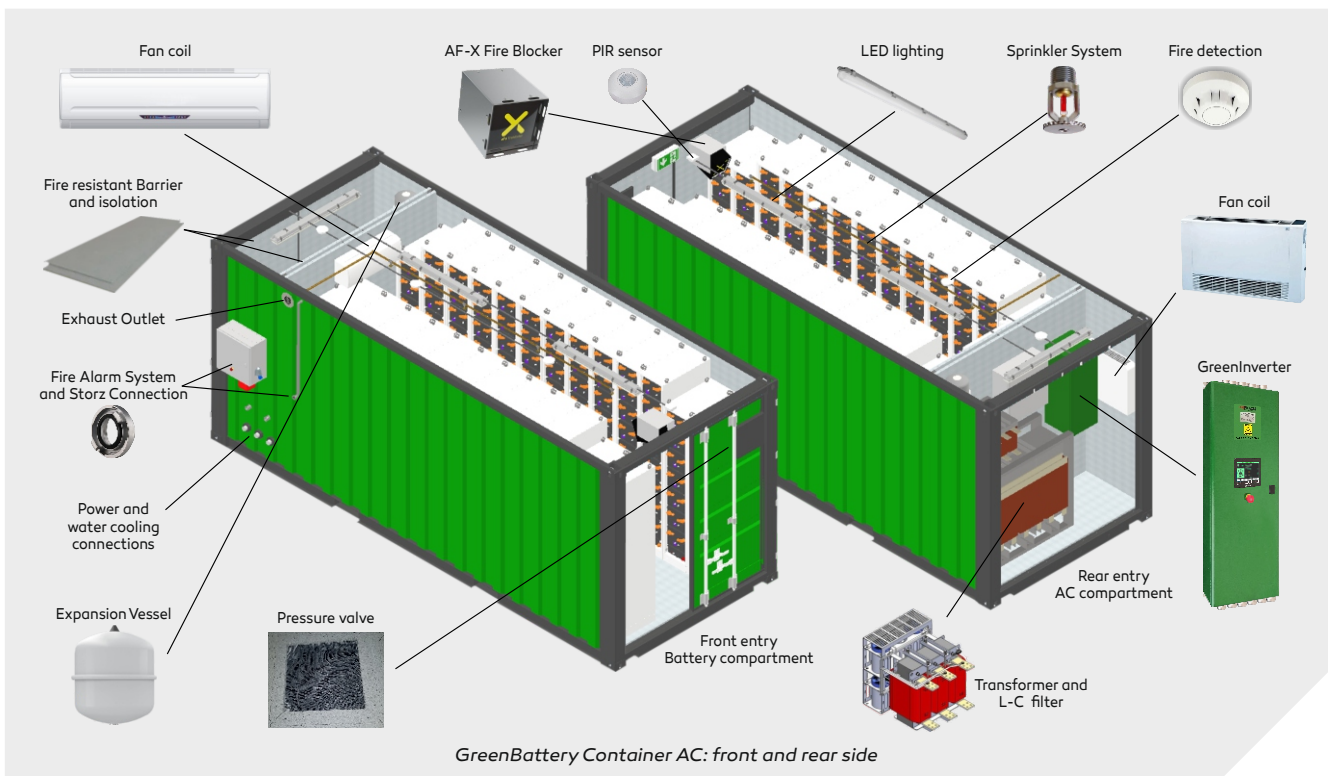
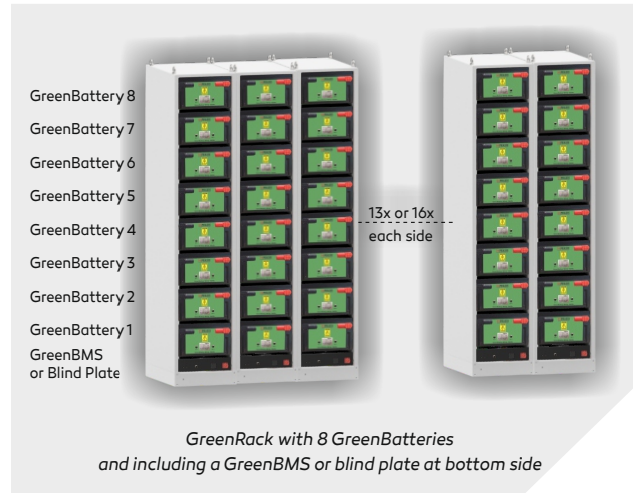
GreenBattery Container DC specification

Storage	up to 2,4MWh
Voltage	960VDC
Max charging / discharging	1250A (0.5C/0.5C)
Size (WxHxD)	Standard 20 ft: 2438x2591x6058mm
Container specification	Fire resistant for at least 60 minutes Fire Alarm System with detectors and siren Fire blocker with aerosol Sprinkler system Battery exhaust Overpressure valve Fan coil with temperature regulation 22°C (requires chilled water 7°C for cooling and heated water 50°C for heating)
Outside connectors	+ and - DC Bus Fire Alarm System Storz water connection for sprinkler Chilled or heated water connection for air conditioning (3,3kW)
Power Supply	24VDC (-25%~+30%) / 500W
Environmental conditions	IEC60945
Class approval	LRS, DNV-GL, ABS, BV, CCS and risk based assessment

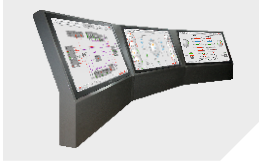
Specification

GreenBattery Container AC specification

Storage	up to 2MWh
Voltage	690VAC model and 440VAC model
Max charging / discharging	690VAC model: 850A (1000kW) 440VAC model: 1000A (750kW)
AC Isolation and filter	Transformer + LC filter. Max 5% THD.
High Power Inverter	GreenInverter HPI-1000A
Size (WxHxD)	Standard 20 ft: 2438x2591x6058mm with standard doors on both sides
Container specification	Fire resistant for at least 60 minutes Fire Alarm System with detectors and siren Fire blocker with aerosol Sprinkler system Battery exhaust Overpressure valve Fan coil with temperature regulation 22°C (requires chilled water 7°C for cooling and heated water 50°C for heating)
Outside connectors	3 phase AC Fire Alarm System Storz water connection for sprinkler Chilled or heated water connection for air conditioning (4,8kW)
Power Supply	24VDC (-25%~+30%) / 750W
Environmental conditions	IEC60945
Class approval	LRS, DNV-GL, ABS, BV, CCS and risk based assessment



Vessel
Management System



Power
Management System



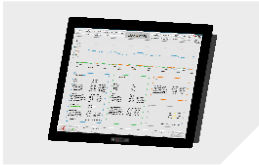
Fire
Alarm System



CCTV
Video Distribution



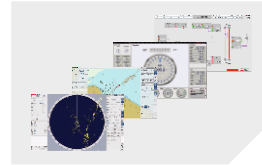
Ship
Performance Monitor



Fleet
Management System



Integrated
Navigation System



Heading
Control System



Propulsion
Control System



Dynamic
Positioning System



BNWAS
Watch Alarm System



Navigation
Light Control



Wiper
Control System



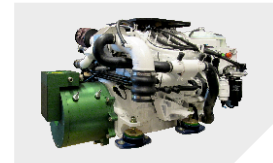
Energy
Management System



GreenAzithruster



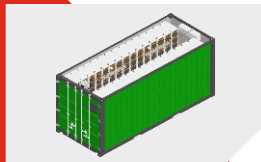
GreenGenerator



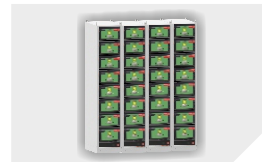
GreenInverter



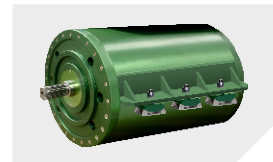
GreenBattery
Container



GreenBattery



GreenMotor



*Ship automation,
navigation and
electric propulsion*