

## BATTERY ENERGY STORAGE SYSTEM

Based on the innovative FlexRACK with Automotive Battery Moduls

**UP TO 3.6 MWH PER 20FT HC UNIT**

**FLEXIBLE PROJECT CONFIGURATION**

**READY FOR AC- AND DC-COUPLING**



The **TRICERA 20ft HC storage unit** is a compact 1500 V design, efficiently housing batteries, a battery control and energy management system, HVAC system, and extensive safety features, suited for all environmental conditions. The batteries can be configured for up to **3.6 MWh** for use in various applications. Several different

battery topologies are available depending on power requirements for **up to 2 C**.

TRICERA offers a robust, modular solution based on proven industrial technology that minimizes installation and maintenance time, extends system life and increases safety.

## FEATURES

- **Individually customizable** and scalable in capacity; performance and HVAC system according to customer and project requirements.
- Cost effective and flexible battery rack construction **FlexRACK** to incorporate various types of automotive battery modules.
- **AC- and DC-Coupling in hybrid systems** possible e.g. solar PV, wind, EV Charging.
- Includes TRICERAs **in-house developed software** BCC and EMS.
- **On- / Off Grid** ready
- **Battery Cluster Controller (BCC)**
  - Monitoring and control of batteries and HVAC system
  - System BMS integrated in BCC
  - Monitoring of safety functions and alarming when limit values are exceeded
  - Communication to Inverter
- **Energy Management System (EMS)**
  - Available for several services
  - Interface to marketer
  - Interface communication via Modbus TCP / IP

\*Pictured enclosure with optional hot climate equipment





## TECHNICAL SPECIFICATIONS

<b>Electrical Parameters</b>	Battery Chemistry <sup>1</sup>	NMC, LFP
	DC Voltage <sup>1</sup>	Up to 1,500 V <sub>DC</sub>
	Nominal DC Energy Capacity <sup>1</sup>	Up to 3.6 MWh
	C-Rate <sup>1</sup>	Up to 2 C
	Aux Load Energy per Enclosure <sup>2</sup>	25 kW <sub>peak</sub>
<b>System Parameters</b>	Cooling Power <sup>2</sup>	10 to 45 kW <sub>th</sub>
	Heating and Cooling <sup>2</sup>	HVAC, Air
	Operating Temperature <sup>2</sup>	-20 to +50 °C ambient temp.
	Altitude	1,000 m
<b>Housing</b>	Container	20ft High Cube Open Side
	Corrosion class <sup>2</sup>	Up to C5
	Dimensions	2,896 x 2,438 x 6,058 mm (HxWxL)
	Weight	Up to 31,000 kg
	Other	Static tested, CSC optionally
<b>Fire detection and Suppression</b>	<ul style="list-style-type: none"> <li>Smoke Detection, Temperature Sensors, BCC Monitoring and Detection</li> </ul> <b>Optional:</b> <ul style="list-style-type: none"> <li>Sprinkler system as dry riser with external C-coupling and fine spray nozzles</li> <li>Gas extinguishing system NOVEC 1230</li> </ul>	
<b>Software</b>	EMS Key Functions	Frequency Regulation, Ancillary Service, Renewable Integration, Energy Arbitrage, Demand Management, Load Leveling, Peak Shaving, Micro Grid System, Black Start Capability Integration, Grid Stability, Commercial Application
	Communication Interface	via Modbus TCP / IP
<b>Norms</b>	EN 60364, EN 60664, EN 61439-1, ISO 13849, EN 60664, EN 61000-6-2, EN 61000-6-4, IEC 62660, UN 38.3 (Modul/Tray)	

<sup>1</sup> Depending on available battery type

<sup>2</sup> Depending on project location and use case

