CONTAINER BATTERY ENERGY STORAGE SYSTEM

GENSTOR – 1 MWH

The structural design of the Innocepts Solar GENSTOR 1 MWh energy storage system is engineered for maximum compactness, flexibility, and scalability, enabling efficient deployment across a wide range of applications.

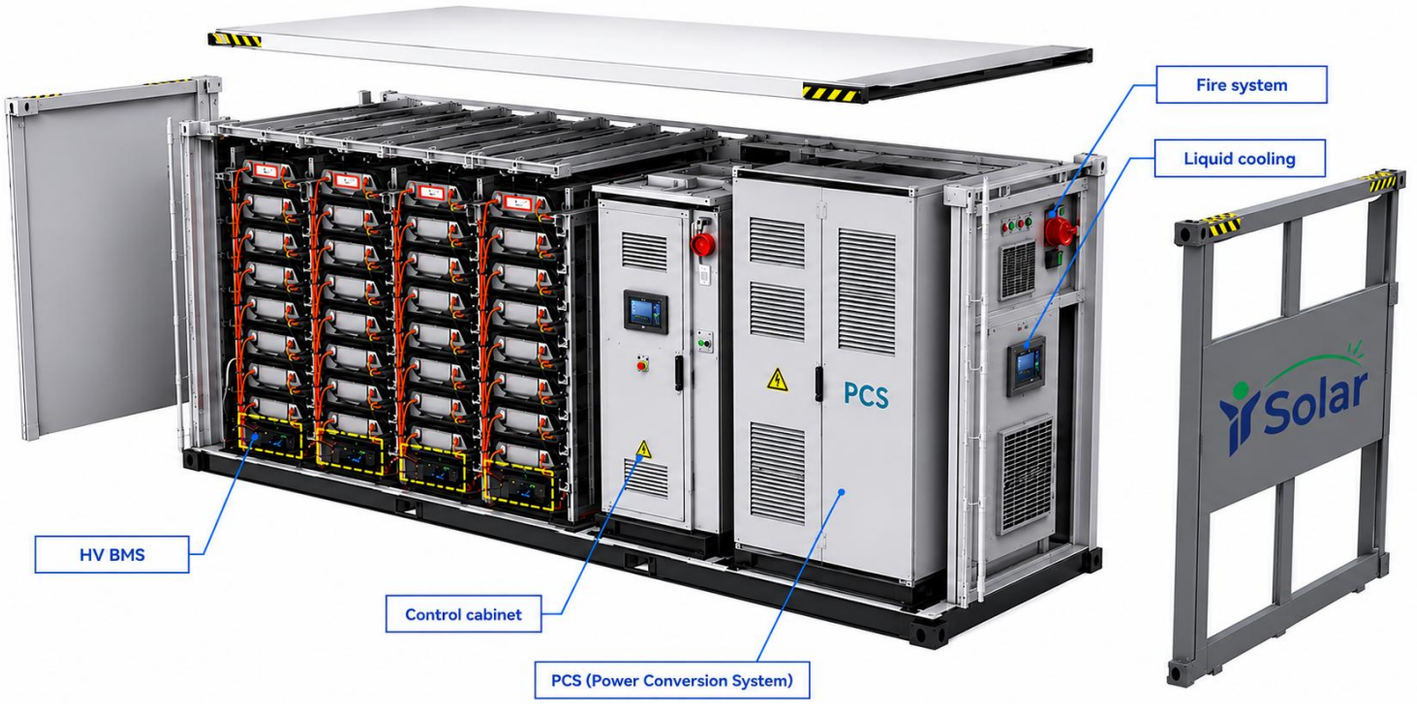
Designed with sustainability at its core, the system delivers environmentally friendly operation with low noise, zero pollution, and zero emissions.

The GENSTOR- 1 MWh solution empowers customers with advanced energy management capabilities, including peak shaving, valley filling, load balancing, and frequency regulation.

By reducing dependence on the utility grid, the system enhances power reliability. It improves overall power quality while ensuring uninterrupted operation of critical and emergency loads during grid outages or power failures.

Parameter	Technical Specification
Battery Parameters	
Charge/Discharge Rate	0.5C
Rated Voltage [V]	768
Operating Voltage Range [V]	672~876
Rated Energy [kWh]	1205
Configuration	5P240S
Cell Capacity [Ah]	314
AC Parameters (On Grid)	
Rated Power [kW]	500
Max. Current [A]	793
Rated Grid Voltage [V]	3W/N/PE,230/400
Rated Grid Frequency [Hz]	50/60
THDi	≤3% (at rated power)
AC Parameters (Off Grid)	
Rated Output Power [kW]	500
Max. Output Power [kVA]	550
Rated Output Voltage [V]	400
Rated Output Frequency [Hz]	50
Unbalanced Load Capability	100%
General Parameters	
Isolation Transformer	Yes
Ingress Protection Rating	IP54
Communication Interface	RS485, Ethernet
Communication Protocol	Modbus
Operating Temperature Range [°C]	-20~+50
Cooling Method	Air Cooling
Fire Suppression System	Aerosol, Water Fire Protection
Max. Operating Altitude [m]	4000 (>2000 Derating required)
Relative Humidity	0~95%, non-condensing
Weight [kg]	20
Dimensions(W*D*H)[mm]	6058*2438*2896

GENSTOR – 1 MWH



- The Innocepts Solar GENSTOR 1 MWh utilises advanced LFP (Lithium Iron Phosphate) battery technology for enhanced safety, long cycle life, and superior energy efficiency. The system delivers up to 1.2 MWh energy capacity within a compact 20-foot containerised solution, maximising energy density while minimising footprint.

- It is equipped with an intelligent liquid cooling thermal management system that maintains cell temperature variation below 2.5°C, improving battery performance, lifespan, and operational stability. The system also incorporates a multi-level active fire protection system to ensure high safety, reliability, and secure operation under demanding conditions.

- The GENSTOR 1 MWh is a fully integrated solution combining the battery system, BMS (Battery Management System), PCS (Power Conversion System), fire protection, thermal management, and control systems within a single containerised platform. Its standardised and modular architecture enables plug-and-play deployment, simplified installation, and scalable building-block expansion for future capacity upgrades.

- Designed for flexibility, the system supports a wide range of applications including peak shaving, load shifting, valley filling, backup power, renewable energy integration, and frequency regulation. It also supports both Ethernet and wireless communication functions for seamless remote monitoring, intelligent control, and energy management integration.

- With its compact, transport-friendly, and easy-to-maintain design, the GENSTOR 1 MWh reduces on-site construction time and operational complexity while delivering environmentally friendly performance with low noise, zero emissions, and zero pollution.

Application Scenarios

Power Generation

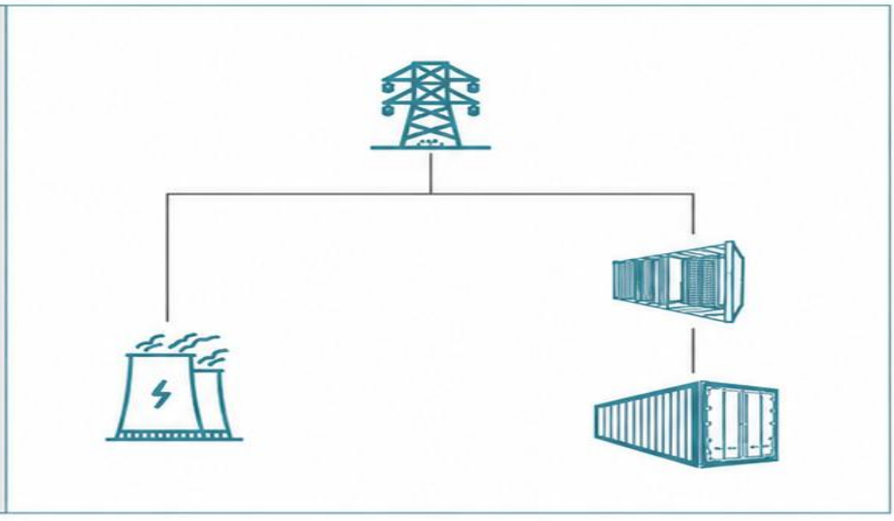
Thermal Power and Energy Storage Joint Frequency Regulation;

Primary frequency regulation for renewable energy power plants;

Secondary frequency regulation;

Inertia response;

Output smoothing;

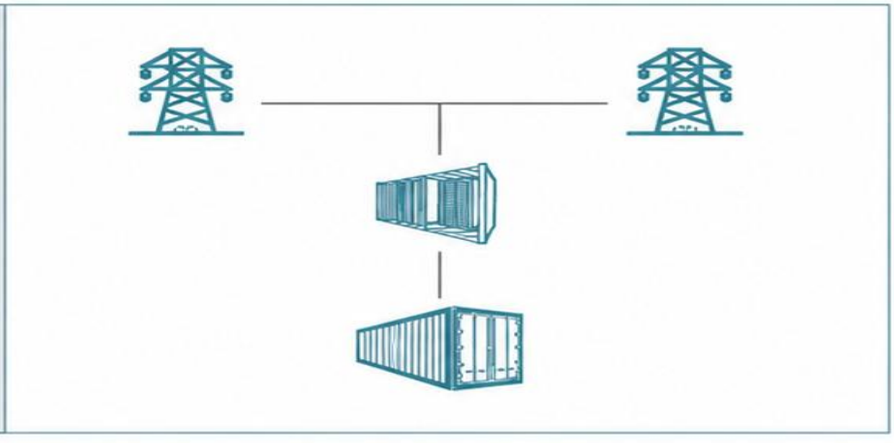


Power Grid

Load leveling;

Peak shaving;

Ancillary frequency regulation.



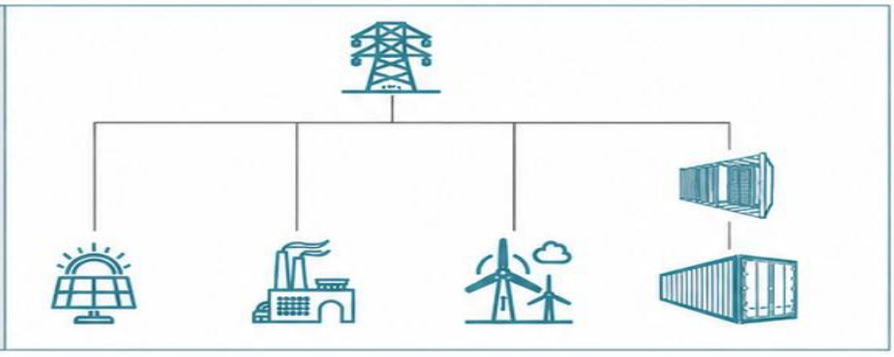
PV-Storage Microgrid

Power quality optimization;

Stability enhancement;

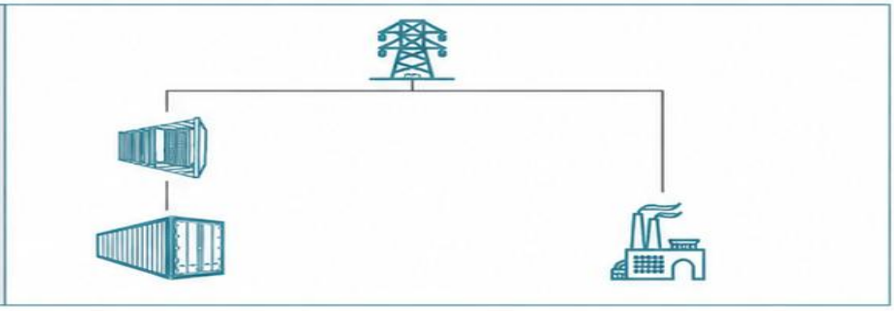
Peak shaving & frequency regulation;

Microgrid support.



Demand Side

Peak-valley arbitrage;
Demand-side response.



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