UTILITY SCALE BATTERY ENERGY STORAGE SYSTEM

MEGA GENSTOR – 5 MWH

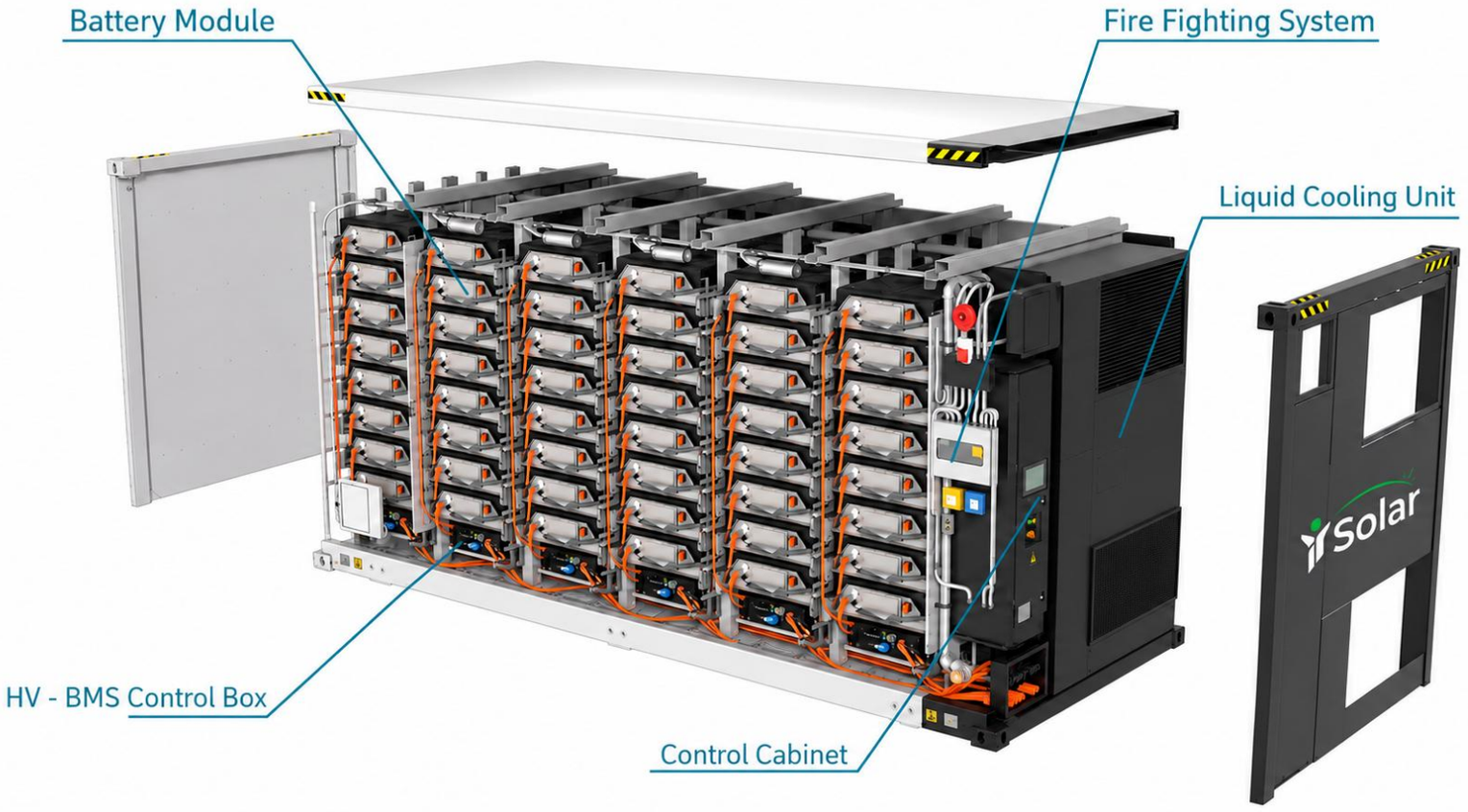
The structural design of the Innocepts Solar MEGA GENSTOR 5 MWh energy storage system is engineered for maximum compactness, flexibility, and scalability, enabling efficient deployment across a wide range of applications.

Designed with sustainability at its core, the system delivers environmentally friendly operation with low noise, zero pollution, and zero emissions. The MEGA GENSTOR 5 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 Type	LiFePO4
Rated Charge/Discharge Rate	0.5C
Battery Capacity [Ah]	314
Battery Rated Voltage [V]	1331.2
Operating Voltage Range [V]	1164.8 ~ 1497.6
Rated Capacity [kWh]	5015.96
System Battery Configuration	(1P416S) × 12P
Ingress Protection	IP54 / IP55
Cooling Method	Liquid Cooling
Fire Fighting System	Aerosol
Relative Humidity	0 ~ 95%, Non-condensing
Operating Temperature [°C]	-20 ~ +50
Altitude [m]	4000 (>2000 derating)
Communication	CAN / RS485 / Ethernet
Communication Protocol	Modbus / IEC104 / IEC61850
Weight [T]	≈42
Dimensions (W × D × H) [mm]	6058 × 2438 × 2896
Delivery Method	Integral Transportation
Note	Specifications subject to change; as per the actual use case Requirement

MEGA GENSTOR – 5 MWH



- The Innocepts Solar MEGA GENSTOR 5 MWh utilises advanced LFP (Lithium Iron Phosphate) battery technology for enhanced safety, long cycle life, and superior energy efficiency. The system delivers up to 5.015 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 MEGA GENSTOR 5 MWh is a fully integrated solution combining the battery system, BMS (Battery Management 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 MEGA GENSTOR 5 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

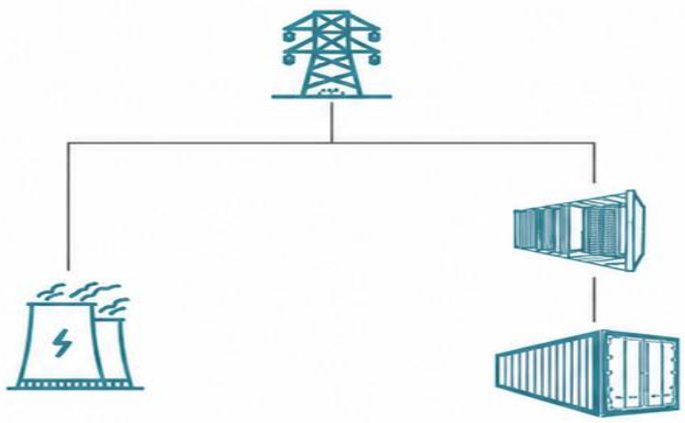
Thermal Power and Energy Storage Joint Frequency Regulation;

Primary frequency regulation for renewable energy power plants;

Secondary frequency regulation;

Inertia response;

Output smoothing;

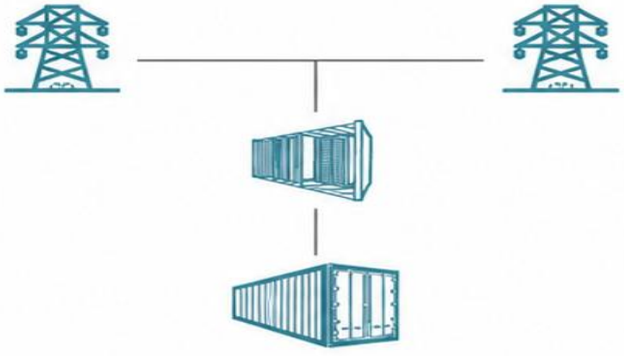


Power Grid

Load leveling;

Peak shaving;

Ancillary frequency regulation.



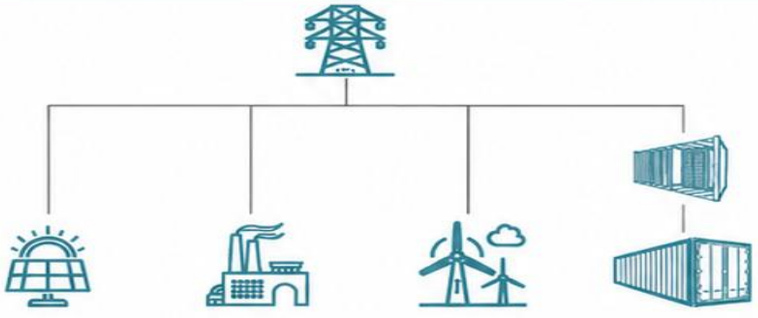
PV-Storage Microgrid

Power quality optimization;

Stability enhancement;

Peak shaving & frequency regulation;

Microgrid support.



Demand Side

Peak-valley arbitrage;
Demand-side response.

Sector 68 | Plot 79 | Opposite Amul Milk Plant | Faridabad
Haryana, India- 121004

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