Mechanical
Battery Storage

KEY ENERGY
UNLOCKING OUR CLEAN ENERGY FUTURE

Independent Power Systems

Innovation and Integration

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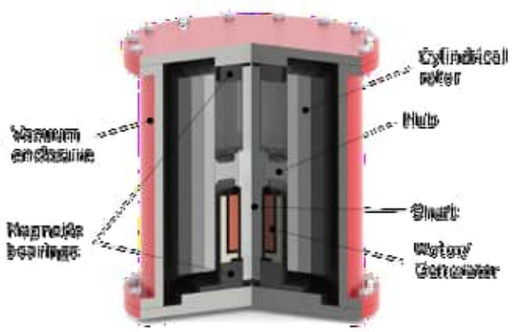
A MECHANICAL BATTERY IS A LONG DURATION FLYWHEEL

- It consists of a steel mass rotating around an axis in a low friction, vacuum enclosure.
- It stores energy in the form of kinetic energy by accelerating a rotor to high speeds and maintaining the energy in the system as momentum in a vacuum.
- The inbuilt motor uses electrical power to charge the wheel by rotating it.
- As the flywheel spins faster, it gathers force to store more energy.
- The motor becomes a generator when energy is extracted from the system as advised by the management system.

More reliable and durable

- 100% capacity over the whole life regardless of usage
- 11,000+ cycles
- Unlimited daily cycles
- 100% depth of discharge
- No fire risk
- Passive cooling
- Recyclable steel



Key Advantages and Features of Mechanical Battery Energy Storage

Longevity: With an expected lifespan of 20+ years. Backed by a 10 year 100% performance guarantee.

Safety: With a temperature range of -20°C to 50°C, our mechanical battery system eliminates fire risks associated with traditional chemical batteries.

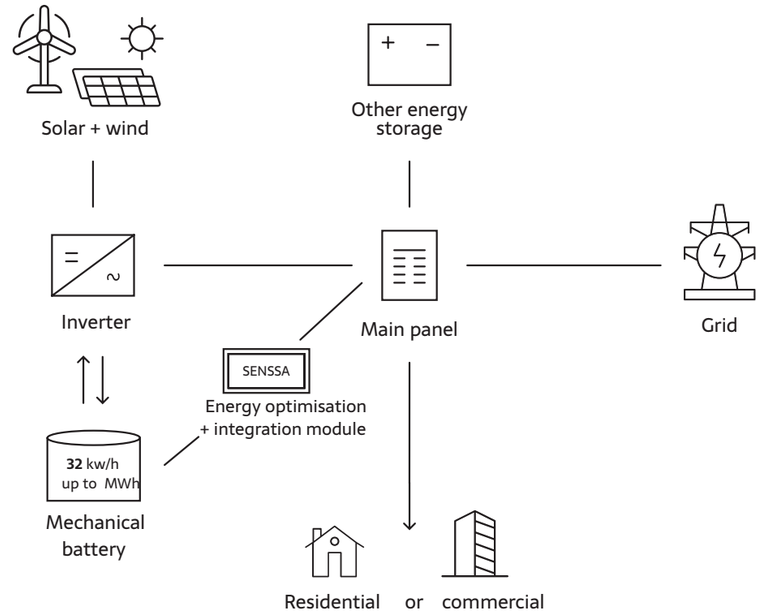
Offgrid Ready: Our system is designed to operate in off-grid scenarios, providing reliable three-phase power.

Multiple Cycles: Enjoy the flexibility of multiple cycles per day, allowing you to maximize the usage of your energy storage system.

Sustainability: Our all-steel design uses no toxic materials and has 7 to 10 times less total emissions than lithium ion.

Above Ground Installation

At Key Energy, we go beyond mechanical batteries. We combine our machine learning AI algorithm, SENSSA, with either mechanical or traditional chemical batteries. This integration allows us to accurately predict energy usage and optimize your battery usage, resulting in lower emissions and improved solar return on investment.



Flywheel Product Details

Performance	
Nameplate Energy Capacity (DC)	24 or 32kWh Modular up to MWh
Nameplate Power Capacity (DC)	8 kW
Discharge Duration	4 hours (min.)
Efficiency	>86% (Round Trip includes Self Discharge)
Cycle Design Life	11,000 cycles (no daily cycling limitations)
GHG Emissions	None
Environmental	
Temperature (operating & idle)	-20C to 50C
Humidity	100% condensing
Electrical	
DC Input-Output Voltage	550 Vdc - 750 Vdc
Self Discharge	<100W (average), <350W (max)
Auxiliary Discharge (240Vac)	<140 W (average), <300W (max)
Full Power Response Time	<1 second
Approved Inverters	SoFar, Goodwe and Sinexcel + future integrations
Mechanical	
Dimensions (housing)	1.3m x 1.3m (flywheel), 2.2m x 2.2m with enclosure
Installation	Above Ground on concrete slab
System Weight	4.8 tonnes (flywheel), c. 5 tonnes (32kWh enclosure)
Communications	Modbus, API available on request, 2-wire Remote Generator Start
Standards Compliance	
Australia/New Zealand	AS/NZS 3820:2009 and AS/NZS CISPR 11:2011. Class A emission levels.

CONTACT US TO RECEIVE AN INTEGRATED ENERGY STORAGE SOLUTION OR LEARN MORE ABOUT OUR QUALITY SERVICES

Contact Information

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