

# Flywheel Energy Solutions

## YOUR ENERGY SOURCE

### NO Augmentation required.

With 100 % depth of discharge several times daily, 1 KWH today will be 1 KWH in 30 years.

### INTERNET CONNECTIVITY

Sunspec IEEE 2030.5 and MESA-DER IEEE P1815.2 protocols to allow these units large and small to fit into our new power connect world.

### CERTIFICATIONS

UL9540 and NFPA 855 certification in process for commercial delivery.

### FASTEST DELIVERY ON THE MARKET

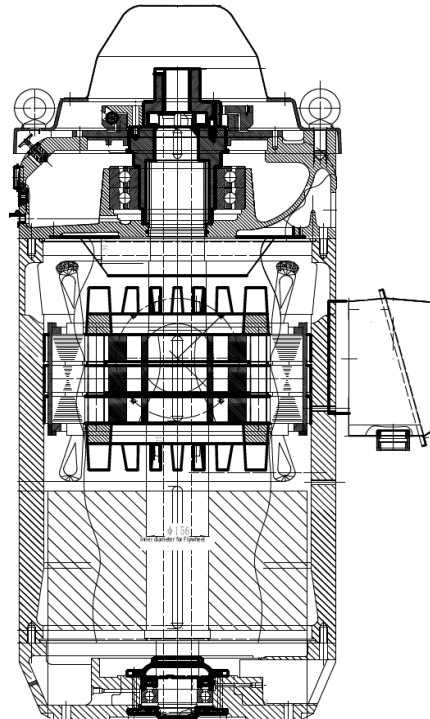
Typical deliveries are 12-18 weeks depending on configuration and quantities.

### ENERGY STORAGE AGGREGATION

Neighborhood Substation storage for Grid-Microgrid operations.

### VIRTUAL POWER PLANTS

Create a VPP anywhere!



## GET TO KNOW Flywheels

### What Is a Flywheel Energy Storage System (FESS)?

FESS is a form of rechargeable energy storage by taking advantage of inherent kinetic and reactive energy easily created and stored in a spinning high mass electric machine with a compound copper winding to produce electricity.

FESS have long held promise as a sustainable energy source, but significant disadvantages have kept them from being widely used in the past as a long-term energy storage medium.

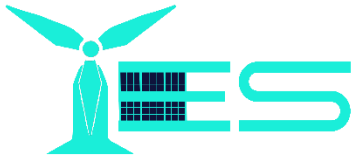
## Flywheel Energy Storage Systems

- 100% Recyclable Made from copper, steel, iron and aluminum.
- Drop-in replacement for 480 VAC BESS systems.
- No need to initially overbuild or Augment.
- No fire protection required.
- Simplicity 90% Common Off the Shelf parts (COTS)
- Standard Vertical solid shaft frame, Hybrid induction Motor/Generator
- Long life should outlast the solar panels in typical installation.

## YES™ Your Energy Source

Through extensive research and development, Flywheel Energy Solutions has helped deliver on this promise by improving upon previous flywheel designs.

With a patent pending design which brings a new combination of existing Common Off the Shelf (COTS) hardware: standard vertical solid shaft motor components, innovative engineering, and integration with Condition Based Monitoring to provide the low maintenance of a standard electric motor at a low cost in, record time.



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## Features and Benefits

### HIGH POWER

Paralleling units allows for sizing a solution by the module 2.5 MWH or by the flywheel.

### DIRECT TO INVERTER

Flywheels can provide DC power via an automatic transfer switch to replace the solar grid output to the inverter, at night.

### ZERO DOWNTIME

Using widely available parts in the motor world, these units will have a typical 30-year life span with annual inspections and 10-year low-cost renewals.

### TURNKEY SOLUTIONS

Available as Standalone FESS for a home, business or farm. For the larger scale installations, 1 MW output, 1 MWH to 4 MWH Modules.

### EV CHARGING STORAGE

Create buffered storage for supercharger infrastructure without having to increase size of utility service.

For more information on any of our products or services please visit us on the Web at: [Flywheel Energy Solutions](http://www.flywheelenergy.solutions)



### Environmentally friendly from beginning to end.

By taking full advantage of the circular economy, the FESS systems are made copper, steel, iron and aluminum all of which are 100% recyclable. The reality of this new concept is, you could literally mine our landfills to provide all the raw materials to make the flywheels, as no exotic minerals are mined in a faraway land...

**Flywheel Energy Systems** can also be used to collect energy from a traditional electrical grid, allowing facilities access to back-up power and could help control costs by collecting power from the electrical grid when rates are lower and storing it for later use during peak consumption times when rates are higher.

## Specifications

- 125KW output 225 KWH versions
- 55KW output 112 KWH versions
- 12.5KW output 36 KWH versions

### YES-I YES-II YES-III

- 240/480VAC A 50 120/75 375/185
- 400/800VDC A 40 100/50 300/150
- NEMA 4 high reflective white or decorative enclosure
- 3 Phase Electric Motor/Generator (EMG) by Innovative Motor Systems
- 60" SQ. base for standalone mounting
- Motor/Generator is fully recyclable
- Made in USA with domestic and imported products
- Uses no exotic material
- EMG is field upgradeable 480 – 2000V
- Competent motor shop can service
- Multiple units can be paralleled
- Condition based monitoring for advanced diagnostics
- Internet enabled control and metering
- Conforms to SunSpec IEEE 2030.5
- 30-year service life, 10-year warranty

### SERVICES AVAILABLE

Technical Support  
Installation and Setup  
Maintenance Contracts  
Application Support  
Hardware Support  
Extended Warranty



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