



飞轮储能系统

PART 01




About us



About us

Flywheel Energy Storage

Smarter Energy Solution for Critical Infrastructure

-  *Reliable, Proven & Certified*
-  *Highly Energy Efficient*
-  *Affordable & Award-Winning*





About us

Smart Energy in Action...

VYCON' s VDC[®] flywheel energy storage solutions significantly improve critical system uptime and eliminates the environmental hazards, costs and continual maintenance associated with lead-acid based batteries...

The VYCON REGEN flywheel systems' ability to capture regenerative energy repetitively that normally would be wasted as heat, delivers significant energy savings and reduced fuel costs while reducing a full range of toxic emissions. In short, the VYCON technology is a vital, first step toward achieving clean, reliable and sustainable energy efficiency.

At VYCON, we discover, design, develop, implement and continually improve upon our industry-leading, environmentally friendly, flywheel power solutions.

PART 02

Technology

Advantage: VYCON

Our VDC and REGEN flywheel systems store kinetic energy in the form of a rotating mass and are designed for high power, short discharge applications. VYCON's patented technology includes a high-speed motor generator, active magnetic bearings that are used to levitate and sustain the rotor during operation, and a superior control and monitoring system that can provide information on system performance. These innovative technologies enable the flywheel systems to charge and discharge at high rates for countless cycles making conventional technologies like batteries obsolete.

Compared to chemical batteries:

- **Response** - it can promptly store huge bursts of energy, and equally rapidly return them;
- **Efficiency** - charges/discharges are made with very small losses; as an electrical storage system a flywheel can have efficiencies over 97%;
- **Maintenance** - flywheels do not require cooling nor do they pose the chemical recycling/maintenance issues of conventional batteries.
- **Lifespan** - flywheels have a typical lifespan of about 20 years, while a lead-acid battery needs to be replaced every three to seven years (and even sooner for high cycle applications);
- **Flywheels** are capable of millions of full charge and discharge cycles over the life of the system with no degradation in voltage, power, or storage - unlike batteries. Flywheel technology is also considered the only green technology of the storage technologies



Self-monitoring of VYCON energy storage systems provide unparalleled availability with predictive failure analysis.

Low Cost of Ownership

Data center managers are continually faced with securing the data of their organization 24x7. To do this, managers must incorporate the highest level of technologies to assure the highest nines of reliability. Driving down costs and increasing data center system uptime are motivating important initiatives such as energy efficiency, sustainability and reliability. VYCON's flywheel technology eliminates the need for costly cooling and maintenance and takes up a fraction of the space compared to banks of backup batteries.

For electric rail operators, increasing efficiency and lowering operational costs are prime concerns. VYCON's REGEN green regenerative technology stores energy generated by braking trains and efficiently redistributes that energy to rail lines to accelerate trains – vastly improving energy usage that otherwise would be wasted in the form of heat. By utilizing smart energy recycling, energy savings of 20 percent or more can be realized.

System uptime and availability are prime concerns for customers. The green technology of our VDC and REGEN flywheel systems offer this reliability as well as cost savings. For example, using a flywheel versus a five-minute VRLA battery bank can offer \$100,000 to \$200,000 in cost savings per flywheel deployed. And, with our contact-free magnetic levitation system, there are no bearings to replace – saving customers \$10,000 in bearing replacement.

BENEFITS

- No bearing replacements
- Sequential start of multiple engine-gensets
- Extends battery life when used alongside batteries
- Plug and play
- 20-year lifespan

PART 03

products



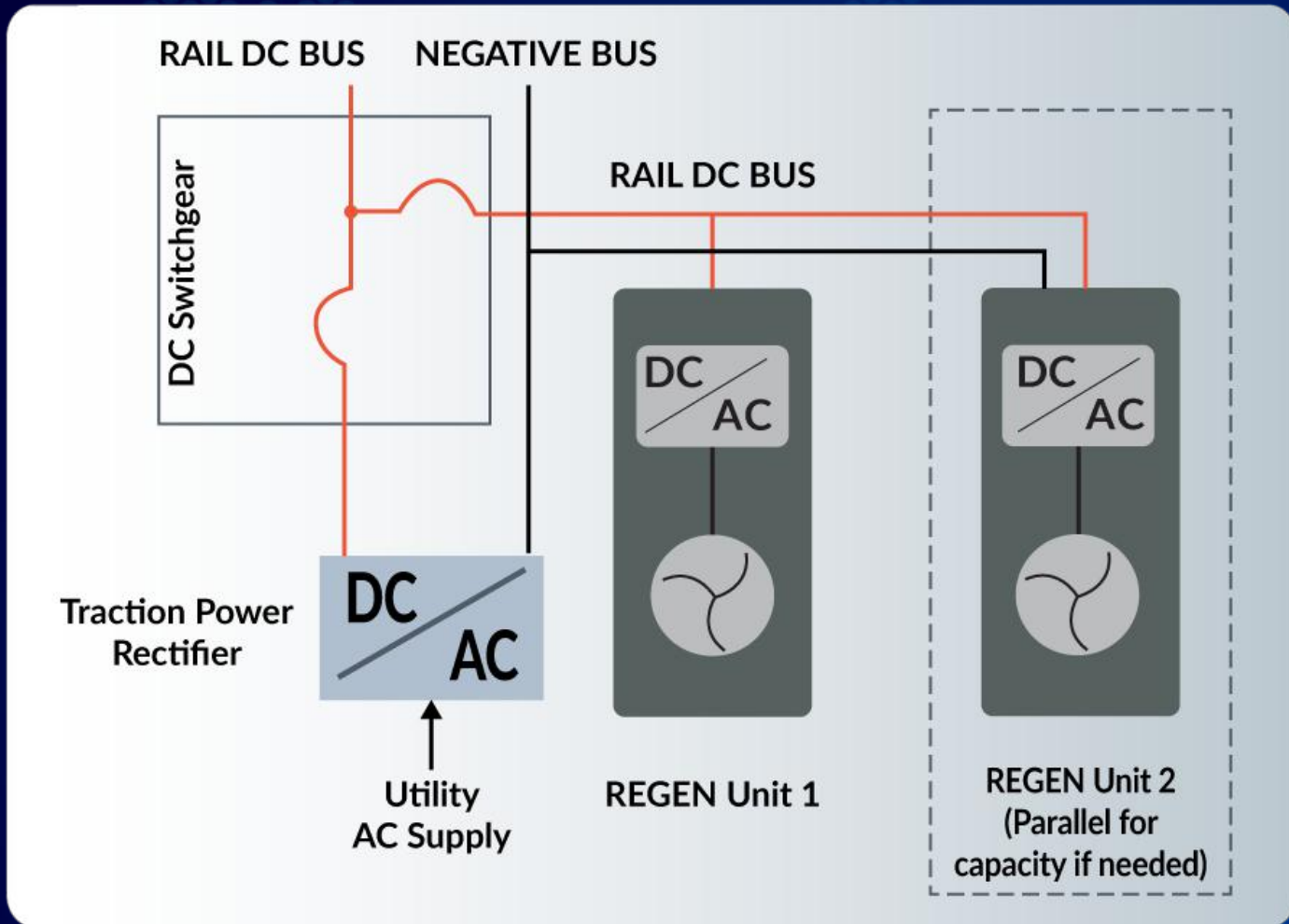
Immediate benefits of the VDC Energy Storage System:

- Reliability Improvement – 20X higher MTBF than a single string of batteries
- Small footprint – modular, scalable and compact
- No cooling required – saves energy and costs
- Energy efficient - 99.4% efficiency at 450kW
- Substantial ROI – Save hundreds of thousands of dollars over batteries



Advantages of the Modular VYCON REGEN 125 kW system include:

- Custom operating system and software interfaces optimized for the rail industry
- Operates without interdependency
- Optimize storage needs per installation site or over an entire line
- Ability to program for optimized energy storage, payback, voltage sags or perform as a substation



VYCON's REGEN Energy Recycling flywheel system uses a permanent magnet motor generator design and levitates within an electromagnetic field - a perfect environment for producing short duration, high-power discharges. It's the reason VYCON's flywheel energy storage systems can charge and discharge at high rates for countless cycles, and why it's making conventional technologies obsolete.

The unique, virtually maintenance-free flywheel technology utilized in VYCON's REGEN flywheel allows users to target energy intensive industries and applications to reduce costs, increase efficiency and reduce emissions.

VYCON

14592 Central Ave.

Chino, CA 91710

562.282.5500

714.386.3813 After Hours Service Hotline