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REDUCED DIESEL CONSUMPTION | ECO-SUSTAINABILITY
OPERATION COST SAVINGS

Hybrid-Power Guardian™

Hybrid RTG Reimagined

Ultra-capacitor-based system turning the RTG
into diesel-electric hybrid RTG



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Hybrid-Power Guardian™

The TMEIC Hybrid-Power Guardian™ System is an ultra-capacitor-based solution transforming the rubber tyred gantry into a diesel-electric hybrid RTG. Energy is stored in the ultra-capacitors during lowering operations of the RTG. The stored energy is applied for RTG operations, allowing for a reduction of the diesel genset size.



- Up to 60% fuel savings. This assumes installing a smaller diesel generator in combination with the ultra-capacitor bank to meet the power demands of the RTG with no reduction in performance.
- Safer maintenance with zero energy state prior to service.
- Rapid energy discharge enables faster RTG response.
- Hybrid-Power Guardian™ utilizes TMEIC's patented Guardian technology eliminating air conditioning.
- All components of the hybrid solution are supplied in the TMEIC Guardian™ enclosure. The enclosure requires no air conditioning which provides condensation-free environmental protection for the hybrid system.

Design Feature	Benefit
Long Life	Estimated lifetime (>1,000,000 cycles), expected more than 20 years with minimal maintenance cost.
Eco-Sustainability	Ultra-capacitors are easy to recycle at end of life as compared to a lithium battery solution.
Safe Maintenance	Ultra-capacitors can be fully discharged prior to shipping and any maintenance. Ultra-capacitors can be kept fully discharged or charged for extended periods without damaging cells.
Wide Ambient Temperature	The Hybrid-Power Guardian™ is constructed to operate in the most extreme temperature ratings: -40°C to +65°C (no air conditioning unit)
NEMA Type 3R Rated	The enclosure provides a degree of protection against dirt, rain, sleet, snow, windblown dust, water and salt.
Quick Charging	The system can be fully recharged in less than 2 minutes for full operation.
AC Eliminated	No need for air conditioning in the The Hybrid-Power Guardian™ enclosure, reducing energy consumption.
Modular Design	The ultra-capacitors can be retrofitted to any existing RTGs.
Code Conformance	Meets local standards such as: UL, CSA, CCC, IEC, CE, and NEMA
CAN Interface	An interface module to allow reporting temperature and voltage conditions.
App Based HMI	Mobile device accessible.
Fuel Cell Flexible	The Hybrid-Power Guardian™ interfaces with fuel cells.



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