



Product

Modified ERD Electrically-Released Brake

Application

Helical Wind Turbines

Highlights

- Emergency braking solution (fail-to-safe)
- Fully customized, maintenance-free design
- 450 Nm torque rating achieved with only 20W energy consumption
- Designed to fit compact space envelope
- Power supply also provided
- Hundreds of units have been supplied

A leading manufacturer of small wind turbines contacted Warner Electric to provide an emergency braking solution for their latest turbine. The turbine was developed for use in applications including major retail centers, office/commercial buildings, government facilities, schools and universities. The compact, 5m x 3m turbines feature a helical design which provides excellent performance in high wind conditions while virtually eliminating noise and vibration.

Warner Electric engineers worked closely with the customer during the turbine development process to design a maintenance-free brake that would fit into the extremely compact space envelope while providing fail-to-safe protection (during power outages). Utilizing existing Warner ERD brake technology, the new brake was fully customized to seamlessly interface with other turbine powertrain components.

The new ERD SZ 450 design features reversed brake mounting which allows the brake to mount directly to the generator. The brakes are equipped with a micro-switch sensor to monitor brake status (on/off). Due to condensation in an outdoor environment, the brake is corrosion resistant and designed to evacuate water from the disc.

Optimized torque characteristics of the brake combined with a specific two-level supply voltage ensures a holding consumption as low as 20W (excellent considering the 450 Nm torque rating). Warner also provided the specified power supply.

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