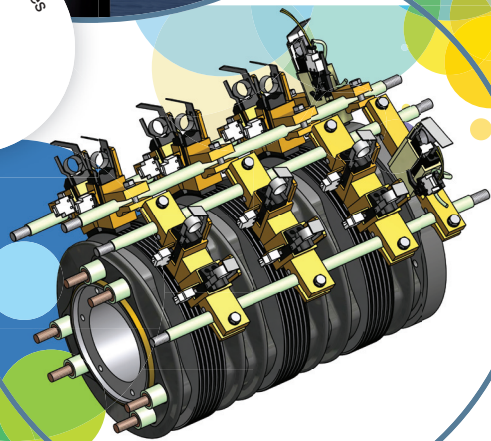
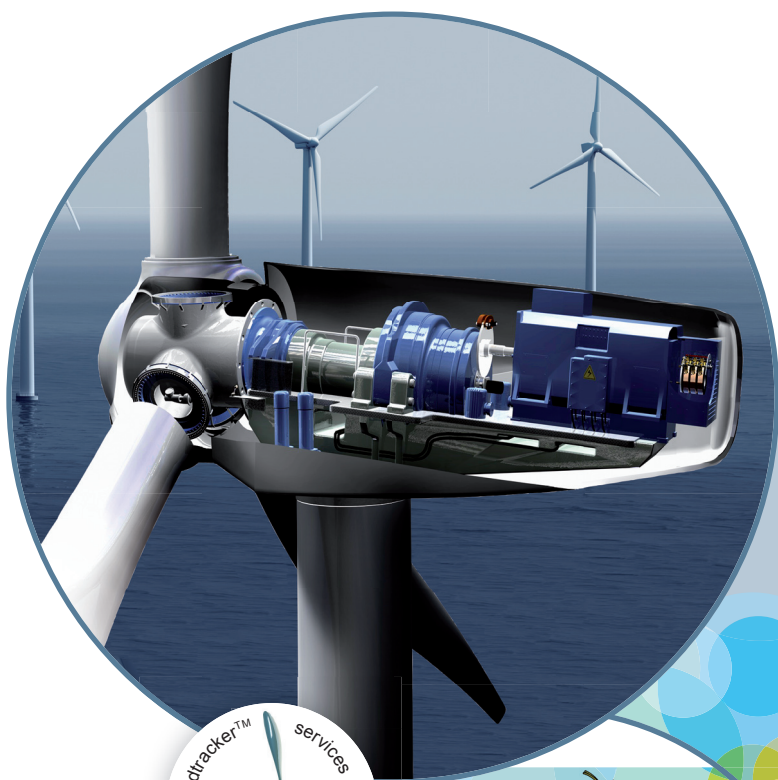


ZOOM

RETROFIT SOLUTIONS FOR WIND TURBINE HITACHI GENERATORS

DESIGNED TO REDUCE BRUSH WEAR,
MAINTENANCE AND DOWNTIME.



WIND GENERATOR AVAILABILITY AND RELIABILITY

- Wind turbine reliability is deeply affected by:
 - Electromechanical failures
 - Electrical parts delivering less-than-optimum performance
- The Industry recognizes that **improved parts** (with **better designs, functionalities and construction**) offer huge savings potential for end-users.

Mersen...

- Long-term involvement with OEMs worldwide
- Extensive field experience
- Strong technical expertise

...Retrofit solution

- A solution for **Hitachi generators** installed in **GE 1.5 MW** wind turbines.
- A complete retrofit solution:
 - Carbon brushes
 - Brush-holders
 - Slip ring assemblies

merseN

RETROFIT SOLUTIONS FOR HITACHI GENERATORS

THE STORY: FROM FIELD EXPERIENCE TO RE-ENGINEERED SOLUTIONS

- Maintenance technicians across the USA reported flash-overs, high brush wear and slip ring assembly threading.
- Mersen Windtracker™ teams investigated and concluded that the existing brush and brush-holder designs could be radically improved.
- The Mersen Engineering and Production teams have come up with **solutions resolving the technical issues** detected in the original design.

MERSEN RETROFIT SOLUTION: RUGGED, RELIABLE & EASY TO INSTALL

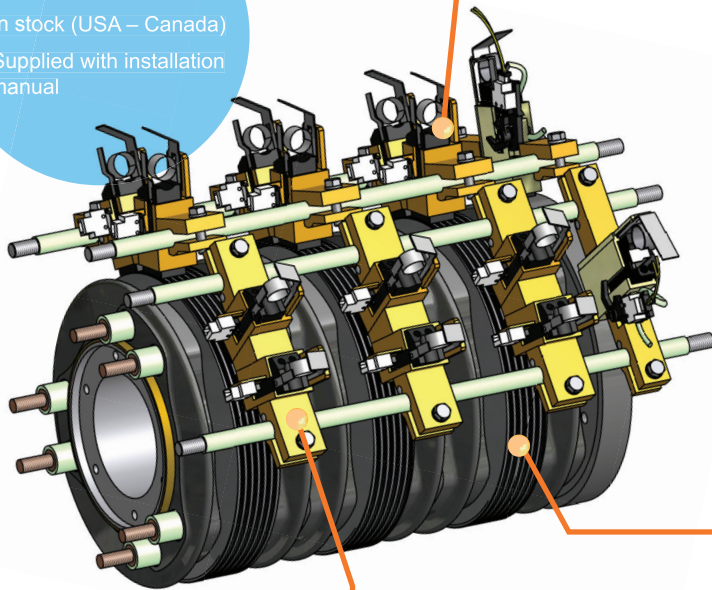
- Our retrofit solution was re-designed and manufactured to be:
 - **Cost-effective** for end-users, maintainers and operators
 - **Sturdy and highly reliable**
 - Able to **withstand rigorous field service** and maintenance activities

PLUG & PLAY

- No generator modification required
- Simple up-tower installation
- Fast and easy component exchange

AVAILABLE NOW

- In stock (USA – Canada)
- Supplied with installation manual



CARBON BRUSHES

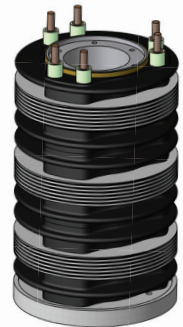
- Radial brush orientation for optimum stability
- Silver tamped shunt connections
- Optimum ratios of brush coverage for long life
- Longer usable brush length
- Mersen's CG626 premium-grade brushes



CG626
Grade

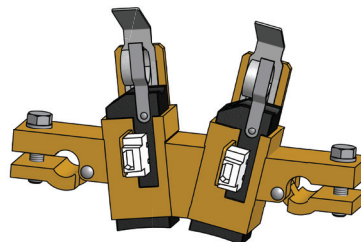
SLIP RING ASSEMBLIES

- Insulation disks for increased tracking distance
- Heat resistant alloy
- Grounding ring incorporated
- Rings available in stainless steel or bronze

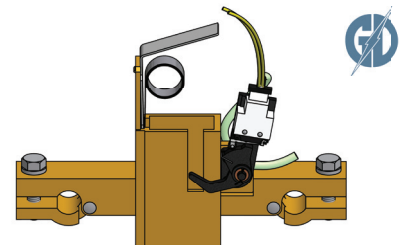


BRUSH-HOLDERS

- Die-cast, high temperature resistant alloy
- Constant force pressure systems
- Integrated brush wear indicator
- 90° ground holder orientation for better contact
- Bolted terminal connections avoiding disconnection



Phase



Ground