

INTEGRATED WIND TURBINE SLIP RING CAPABILITIES



Wind turbines require delivery of power and data signals to the rotating hub by a reliable slip ring assembly. These high-performance units must operate continuously in harsh environments, where regular maintenance and monitoring are difficult and expensive. Moog provides rotary products that are designed to operate reliably in these rugged environments.

Moog contact materials and matching design parameters provide several options for long-lived, reliable power transfer, including a patented fiber brush technology and a carbon/metal composite brush that was custom designed for the requirements of wind turbine power transfer.

Pictured to the right is a newly developed next generation wind slip ring design which combines the capabilities of Moog technology in one housing. The slip ring features carbon brush technology, capsuled slip ring, fiber optic rotary joint and an encoder.

These wind power solutions have standard, flexible configurations that allow quick configuration to meet each customer's unique set of requirements. The use of standard pre-engineered modules allows cost effective, field-proven and yet customized solutions.



Integrated Wind Turbine Slip Ring Technology

ADVANTAGES

- Customized combination of carbon brush, capsuled fiber brush and fiber optic rotary joint technology in one housing
- Integration of encoder or fluid rotary union possible
- No lubrication required
- High reliability
- Protection class up to IP65
- Robust housing design
- Housing material made from seawater - resistant aluminium (low weight)
- Two ball bearings integrated
- Resistant against humidity
- Resistant against temperatures from -40°C to +75°C
- Vibration resistance

TECHNICAL DATA

Carbon Brush Technology

- For 100 A power transmission
- Maintenance free for five years
- Life time +200 million revolutions

Fiber Brush Capsule Slip Ring

- Operates 100 million revolutions
- Minimal wear debris generation, fiber brush technology
- Precious metal contacts for excellent signal handling
- No contact area maintenance or lubrication required

Fiber Optic Rotary Joint with ST-ST Fiber

- Single pass, multimode fiber optic rotary joint
- Ruggedized for harsh environments
- Low insertion loss and low back reflection
- Common wavelengths (850/1310, 1310/1550 nm)
- Sealed design (IP67)
- Bulkhead ST connectors
- 316 stainless steel

Encoder

- Robust bearingless incremental encoder
- Wearfree magnetic sensing principle
- Space-saving by short mounting depth
- High signal quality and resolution

Moog has offices around the world.

For more information or the office nearest you, contact us online.

mcg@moog.com

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Integrated Wind Turbine Slip Ring Capabilities Data Sheet
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For product information, visit

www.moog.com

This technical data is based on current available information and is subject to change at any time. Specifications for specific systems or applications may vary.

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