



# SLIP RING AND ROTARY SOLUTIONS FOR THE CONSTRUCTION MARKET

## Quick Reference Guide

Data and power transfer for demanding heavy equipment applications

# SOLUTIONS OVERVIEW AND BENEFITS

Slip ring transmitters, often called rotary joints or transfer systems, are electromechanical products for the transfer of currents, electrical signals or media from a fixed part to a continuously rotating part. Slip ring transmitters are used where rotational movements of 360° are required and where a drag chain would hinder this movement. A slip ring transmitter usually consists of a slip ring assembly and a current collector — and in most cases an additional covering.

Moog has been designing and manufacturing current transfer systems for more than 100 years and offers standard and customized solutions developed with the support of experienced

technical design experts. We supply major crane and excavator manufacturers with slip ring transmitters and hydraulic components. We also provide the option of incorporating encoders into our rotary distributor products, to meet customer application needs.

Our experts work closely with customers to meet or exceed their requirements. In addition, all of our solutions are tested to withstand harsh operating environments, using vibration equipment and a climatic chamber. From concept to production, the Moog team is available to support every step of the process.

## CONSTRUCTION AND HEAVY EQUIPMENT SOLUTIONS



# WORLD-CLASS PERFORMANCE IN EVERY PRODUCT

## SLIP RING MODULAR SYSTEM (SM SERIES)

The robust and compact Slip Ring Modular System (SM series) was developed for the high vibration requirements in construction machinery and is used in a wide variety of demanding applications. The surface grinding rings are made of brass, with a great refined surface that ensures high resistance to abrasion. The current collector has six silver plated contact parts. It is easy to integrate and can be combined with all Moog products.



## SLIP RING PLATTER SYSTEM (SP SERIES)

The flat platter or “pancake” system is particularly popular in applications with limited installation space. Up to 600 sliding tracks can be installed in a compact housing, and depending on the component designs, nominal voltages from 60 V to 600 V can be achieved. The contact combinations of the established silver rivet technology and the surface refined slip ring track are ideally suited for challenging environmental conditions. Moog also offers a variety of integrated solutions that can be combined with the platter system to maximize performance results and system advantages.



## HIGH POWER SYSTEM (SE SERIES)

The Moog high power system is designed for applications requiring a transmission of high voltage and high currents. The SE series achieves safe power transmission using carbon alloy technology, which Moog has utilized and enhanced for over 100 years. The current collectors are designed for high contact transmissions in slip rings and to withstand tough environmental conditions. The high current density design allows for the transmission of significant amperage in limited installation spaces, which is a typical challenge for electrified mobile machinery. In addition, the slip ring surface can be optimized to meet customer requirements.



## ROTARY UNIONS / MEDIA DISTRIBUTORS

Rotary unions, also known as media distributors, are time tested machine components used to transfer liquid as well as gaseous and electric media from stationary to continuously rotating elements. In addition to standard solutions, Moog offers customized rotary unions that can be designed to meet your specification and application needs. Rotary union seals are made from specialized materials and are typically adapted to ensure isolation of the medium being transferred. Special sealing-free solutions are also available for high rotational speeds that would cause extreme wear. For more information on customizable options, contact a Moog expert today.



## CABLE REEL

Our spring driven cable reels are designed for the harsh environments often found in mobile machinery and crane industry applications. Our slip rings can be found assembled at the end of ship winches or motor driven cable reels in harbor cranes. In special applications, like remote controlled robots, Moog has designed motor driven cable reels with contactless fiber optic rotary joints. Customers from various industries such as firefighting departments, mobile equipment and automotive assembly lines trust the performance and durability of spring driven cable reels from Moog.



## FIBER OPTIC ROTARY JOINTS / NON-CONTACTING SYSTEMS

Non-contact optical designs offer low attenuation and excellent electromagnetic compatibility. Even the most demanding applications and harshest environments are no challenge for these solutions. For more than 20 years, Moog has supplied standard and custom fiber optic rotary joints, delivering high quality fiber optic performance to customers worldwide. Our cost efficient fiber optic rotary joints are deployed in applications with arduous requirements for optical performance and life longevity. Moog engineers have the application expertise to customize variations in design specifications, such as the number of channels or the use of polymer optical fibers versus lenses, in order to meet customer requirements.



# ELECTRIFICATION, AUTOMATION AND CONNECTIVITY

At Moog we understand the critical relationships between electrification, connectivity and automation in today's construction and heavy equipment machinery. Electrification, connectivity and automation are critical factors in achieving zero emissions, sustainability and improved accuracy and safety in autonomous driving assistance. Our high performance electrification systems feature robust, long life rotary interface products and technologies designed to maximize uptime, efficiency and output.

Moog's slip ring and rotary solutions deliver high power transfer capabilities in a compact modular solution, expertly tailored to fit the existing structures of battery and cable powered machinery. Our rotary unions can withstand pressures up to 7,300 psi and are ideal for applications that require compact and low weight components. In addition, the flexibility of our slip ring and rotary interface products allows them to be combined and customized to deliver integrated high speed data solutions for autonomous vehicle operation and automation.

Our solutions support a wide variety of communication protocols, including Ethernet and CANBUS, and provide reliable transmission of data, even in the most challenging environments.

Moog offers decades of trusted application experience and knowledgeable experts, ready to support your project every step of the way.

## Features

- Reliable, low noise during data transmission
- Contacting and non-contacting technologies available
- Customizable flanges and connectors
- Can be combined with our rotary interface solutions for custom requirements
- Rugged housing protects against debris, corrosion, humidity, vibration and harsh environments
- Wide operating temperature range: -40° to 80° C
- Optional IP67 / IP69K protection

## Advantages

- Long life, minimal maintenance performance (no maintenance for contactless solutions)
- Minimal wear, debris and corrosion
- Customizable space saving solutions
- Collaborative, technology neutral approach
- Trusted and proven industry expertise since 1951

## HIGH POWER TRANSFER WITH ZERO EMISSIONS



**SE SERIES  
HIGH POWER  
SLIP RINGS**

# CONSTRUCTION AND HEAVY EQUIPMENT APPLICATIONS



**WHEEL EXCAVATORS**



**MATERIAL HANDLERS**



**PLATFORMS**



**TRAILER PLATFORMS**



**LOADER CRANES**



**TOWER CRANES**



**MOBILE CRANES**



**HARBOR CRANES**



**PORTAL HARBOR  
CRANES**



**MINI CRANES**



**SPIDER VEHICLES**



**TUNNELING**



**RAIL ROADS**



**TELESCOPIC  
HANDLERS**



**ATTACHMENTS**



**AERIAL LADDERS  
AND RESCUE LIFTS**

# TAKE A CLOSER LOOK

Moog experts offer decades of trusted engineering experience and reliable solutions for all your product design and development needs. Contact us today.

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