



# Model 331 Brushless Slip Ring

**Conductors: Three Conductor**  
**Amps: 2@4 Amps, 1@30 Amp**  
**Volts: 250**

The Mercotac® model 331 brushless slip rings are an excellent choice for food packaging such as rotary indexers or filling systems as they enable the continuous transfer of power, control signals, or data signals between the stationary control system and the rotating components of the machine

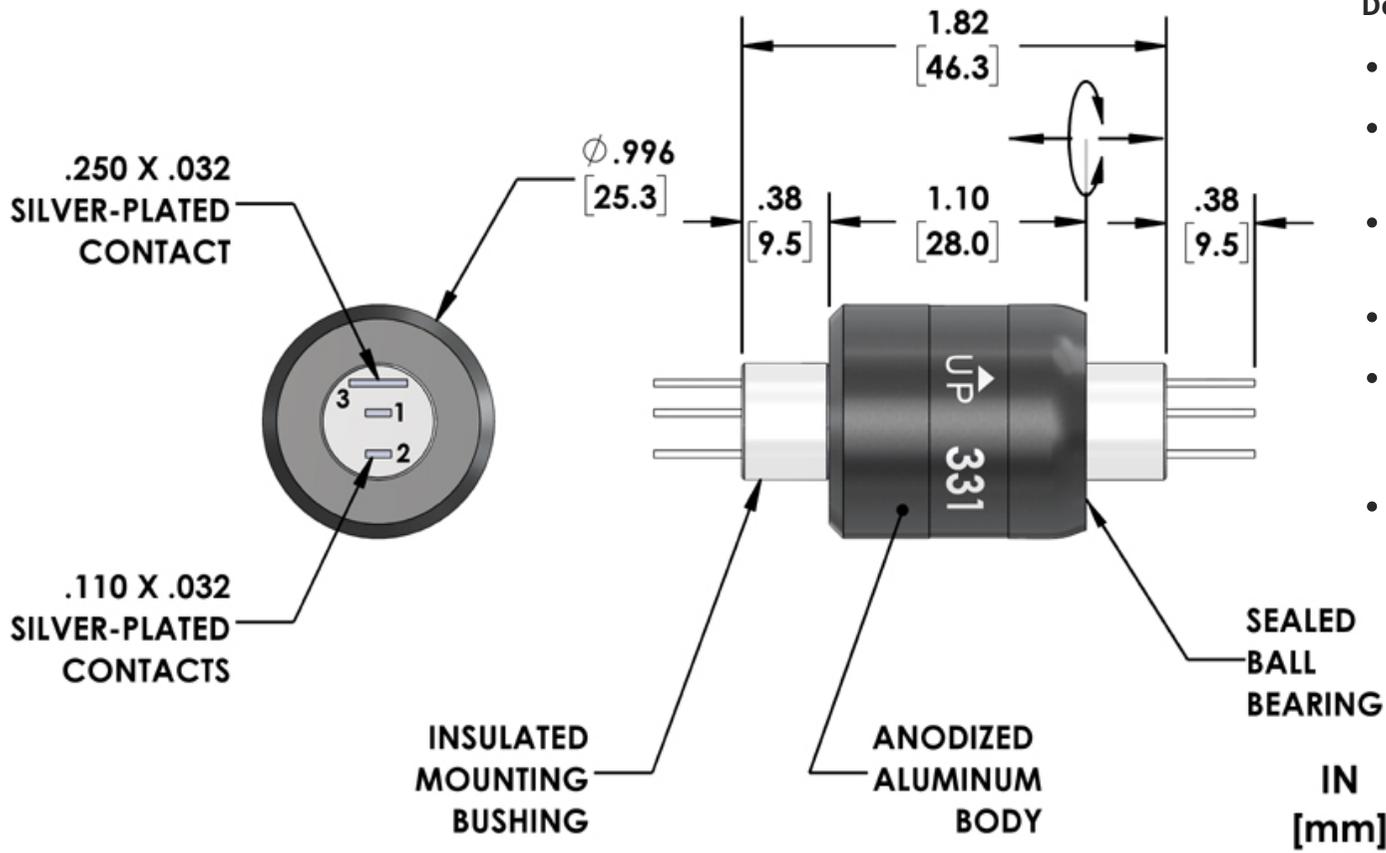
## Advantages:

- Durable, compact, and low cost
- Use for signal and/or power connections
- Easy to install and replace
- IP 51 protection rating with boot kit
- Lightweight with robust metal construction
- Long-lasting, energy efficient, and no maintenance
- Made in the USA



## Model 331 Product Specifications

**Dimensions**



**Details:**

- Disconnects are included
- 55110 Small Straight Disconnect (Qty. 4)
- 55250 Large Straight Disconnect (Qty. 1)
- 55251 Large Flag Disconnect (Qty. 1)
- Available with stainless steel ball bearing (331-SS) (recommended for wet or corrosive environments).
- Dust/Splash [Boot Kit](#) available.

**Specifications**

Model No.	Terminals	Body Material	Bearing Type	Max. Rotational Torque (gf-cm)	Max. Voltage Rating (AC/DC)	Max. Current Rating (Amps)	Max. Rotational Speed (RPM)	Operating Temp. Min °F (°C) Max °F (°C)	Max. Frequency (MHz)	Contact Resistance (mΩ)	Circuit Separation (MΩ)
331	3	Anodized Aluminum	Chrome Steel	200	250	2@4 & 1@30	1800	Min -20 (-29) Max 140 (60)	100	<1	>25
331-SS			Stainless Steel								

"SS" designator indicates stainless steel ball bearing (recommended for wet or corrosive environments)

### Accessories

**Description:** Boot Kit Parts  
**Item #:** 57230

- Vinyl **Boot Kit** for dust and splash protection
- IP51 protection rating



**Description:** Boot Kit Shown Assembled  
**Item #:** 57230

- Vinyl **Boot Kit** for dust and splash protection
- IP51 protection rating



**Description:** Large Flag Disconnect, Insulated  
**Item #:** 55251

- 16 AWG - 14 AWG
- Qty. 1 included
- Maximum recommended Amps: 15



**Description:** Large Straight Disconnect, Insulated  
**Item #:** 55250

- 16 AWG - 14 AWG
- Qty.1 included
- Maximum recommended Amps: 15



**Description:** Small Straight Disconnect, Insulated

**Item #:** 55110

- 22 AWG - 18 AWG
- Qty. 4 included
- Maximum recommended Amps: 4



**Description:** Other Disconnects

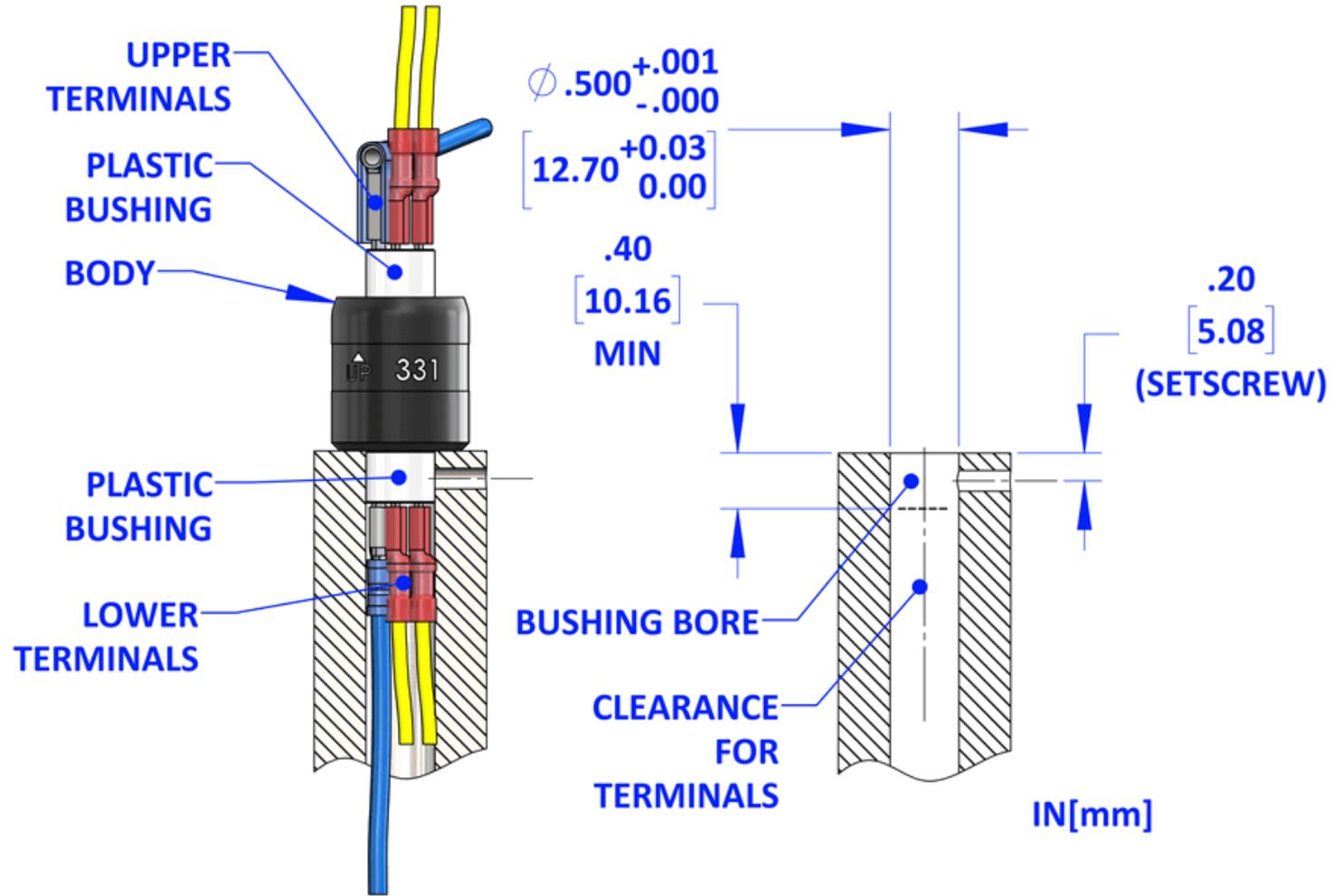
- Disconnects for other wire gauges are available and can be substituted for the standard disconnects (22-18 AWG and 12-10 AWG). See [Ampacity Table](#)

## Mounting

Model 331 is typically mounted by either the black body or the white plastic bushing on either end using a set screw or split clamp. When used horizontally, mount the Mercotac so the body of the connector rotates

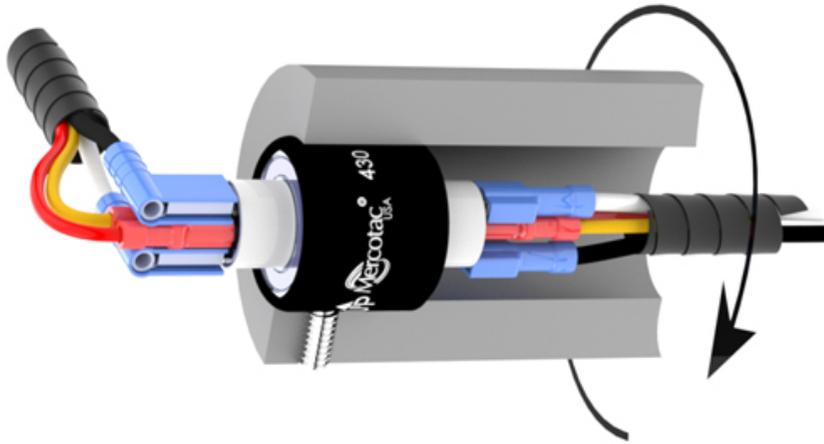
### Body Mount





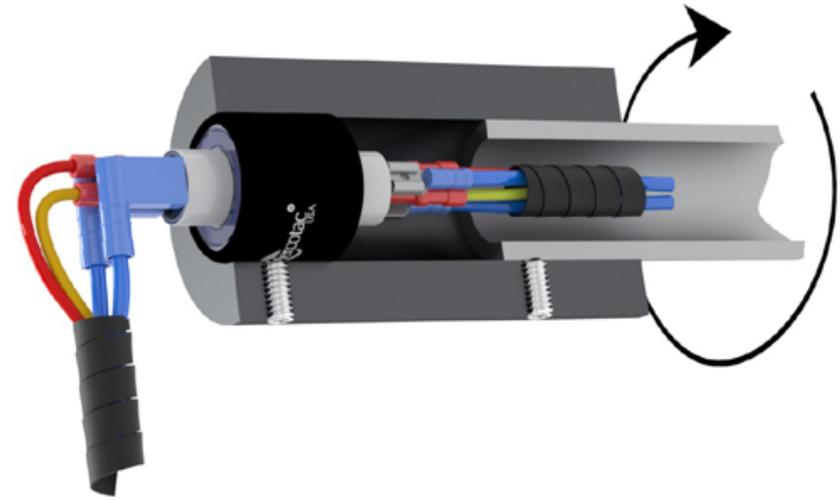
BLACKBOX AI

### Horizontal Mount to Body



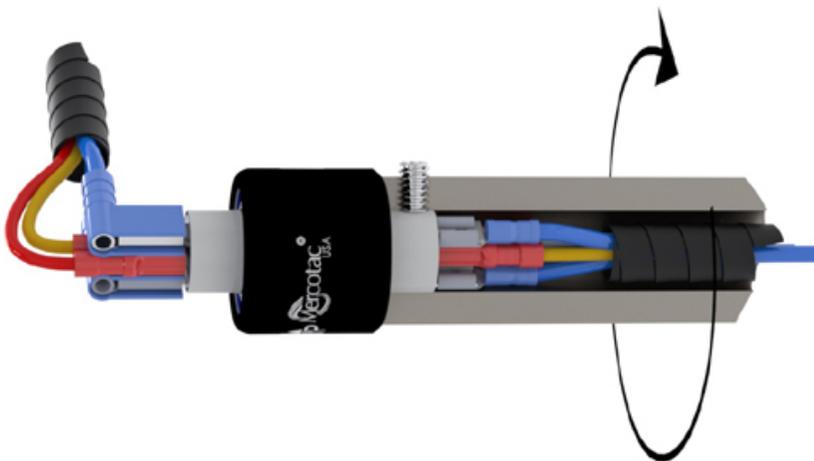
Good mounting method  
(but vertical orientation is better)

### Adaptor Mount to Body



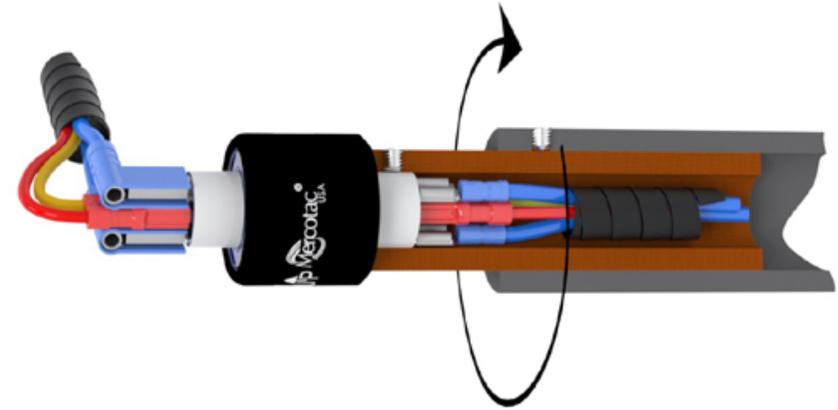
Use when the shaft diameter is smaller  
than the body of the Mercotac.

### Horizontal Mount to Bushing



Used if the shaft cannot be fitted to the body diameter.

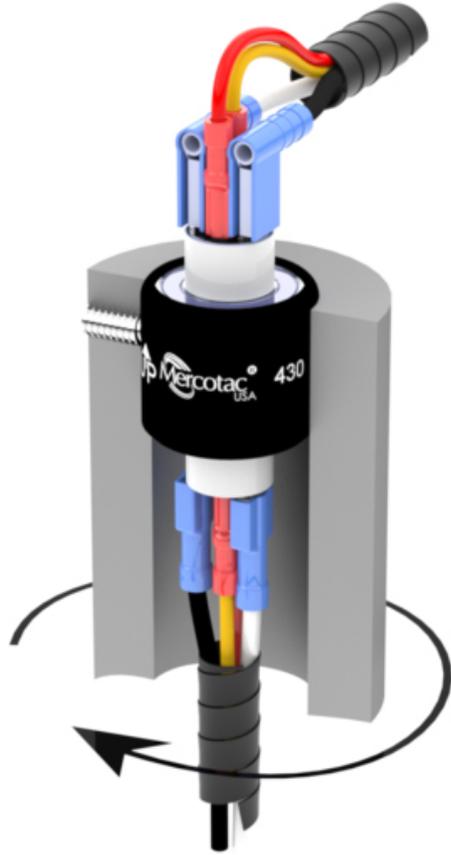
### Thermal Insulated Mount to Bushing



May be needed if thermal insulation is necessary.  
Used if the shaft cannot be fitted to the body diameter.

### Top Mount to Body

### Bottom Mount to Bushing

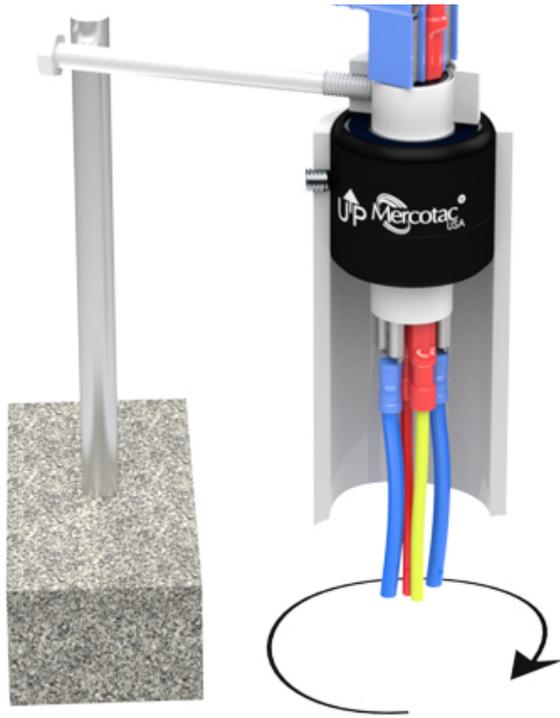


Best mounting method.

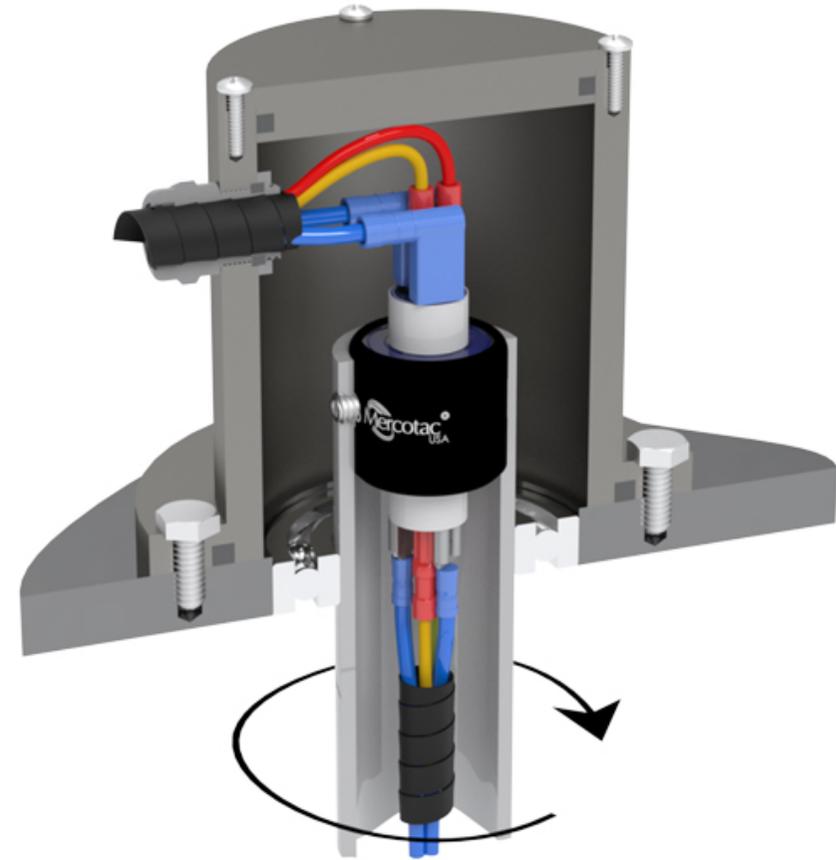
**Floating Torque Arm Mount to Body**



**Protective Housing Mount to Body**

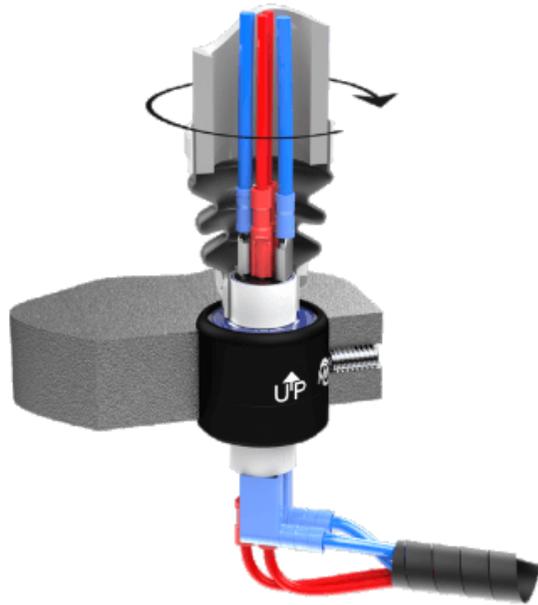


**Vibration Isolation Mount to Body**

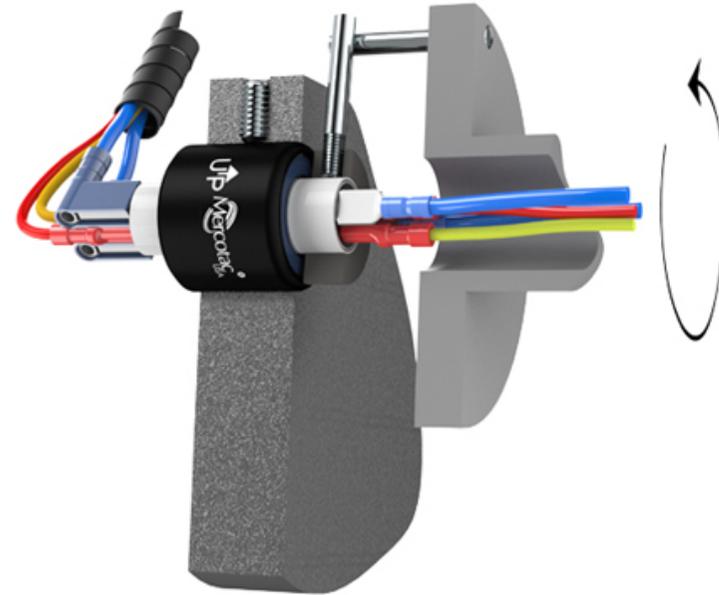


Recommended for wash-down or dirty environments.  
Also recommended for food processing applications.

**Vibration Isolating Mount to Body**



With flexible bellows.



With floating drive coupling.

#### Installation Notes:

- The up arrow should not point below horizontal.
- Do not solder to or bend terminals.
- Avoid lateral forces and mechanical loads (overly stiff or tight wires).
- Do not rigid mount both ends of the Mercotac.
- Limit the mounting eccentricity (runout / wobble) to .005" (.13mm).
- Provide overload protection within the circuit.
- Avoid vibration and bumping motions.

#### Connections

##### Model 331 Standard Wire Connections



1. Wire connections, mounted inside rotating shaft.
2. Stationary end showing standard wire connections.
3. Wires crimp to terminals.  
(Suggested tool: Thomas & Betts #WT 112M)

### Model 331 Wire Connections with Optional Boot Kit



Cutaway view.

Wire connections, mounted inside rotating shaft.

Stationary end showing optional boot kit.

Wire connections, mounted inside rotating shaft.

Stationary end showing optional boot kit.

#### Applications

The Mercotac model 331 brushless slip rings are used in food packaging, ultrasonic welding, bearings manufacturing, and wireline trucks in the oil industry. They enable seamless power, control signal, and data transmission, ensuring efficient operations.

- In food packaging, the slip rings transfer power and signals between stationary control systems and rotating components. They ensure precise and efficient packaging processes.



- In ultrasonic welding, the slip rings facilitate power and signal transfer between stationary equipment and rotating welding tools, ensuring high-quality welding in automotive, electronics, and medical industries.
- In bearings manufacturing, the slip rings enable efficient power and signal transmission, contributing to the production of high-quality bearings for various applications.
- Wireline trucks in the oil industry rely on the slip rings for power and data transmission during well logging and intervention operations, ensuring efficient and accurate processes.

Overall, the Mercotac model 331 slip rings offer versatile solutions in multiple industries, enabling seamless power and signal transmission for enhanced operational efficiency.

Check out our [Applications](#) page for more examples of how Mercotac products are utilized.

## Learning Center

Guidance for using Mercotac® Brushless Slip Rings in engineering designs.



**Learn about our Mercotac®  
Construction & Materials: Body**



**Learn about Mercotac® Electrical  
Characteristics: Voltage Rating, Current**



**Learn about Mercotac® Rotational  
Characteristics: Rotational Speed,**

Materials, Bearing Types,  
Conductors/Terminals, Thread Sizes,  
Mounting Options.  
[Learn More](#)

Rating, Contact Resistance, Circuit  
Separation, Operating Temperature,  
Frequency.  
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Rotational Torque.  
[Learn More](#)

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