Model 305 Brushless Slip Ring

Conductors: Three Conductor
Amps: 4
Volts: 250

The Mercotac® model 305 brushless slip rings are frequently used in wind turbines to transmit power, data, and control signals between the stationary and rotating parts. This enables efficient operation and control of the turbine.

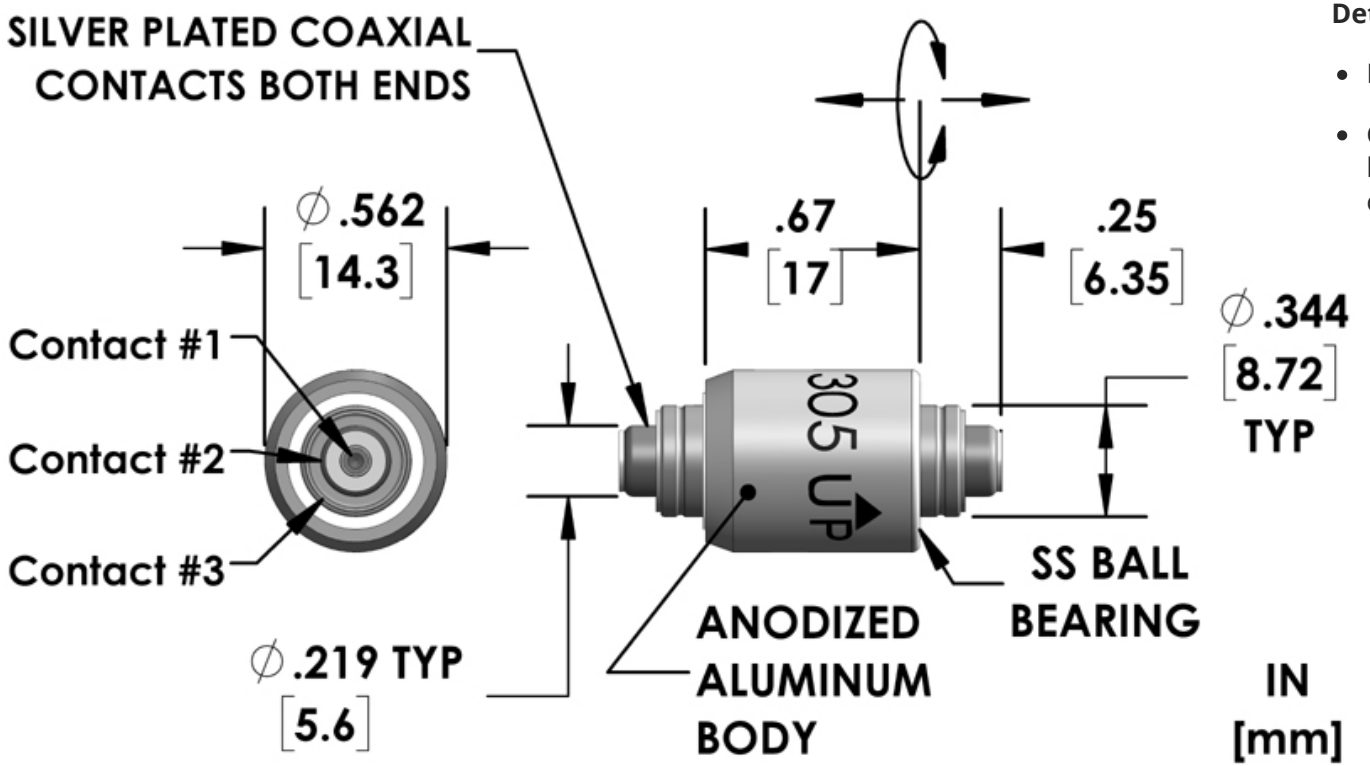
Advantages:

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

SPEC SHEET CAD DOWNLOAD

Model 305 Product Specifications

Dimensions



Details:

- Disconnects are not included.
- Comes standard with stainless steel ball bearing (recommended for wet or corrosive environments).

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)
305	3	Anodized Aluminum	Stainless Steel	100	250	4	1800	**Min** 45 (7) **Max** 140 (60)	200	<1	>25
305-L							1000	**Min** -20 (-29) **Max** 140 (60)			

- "L" designator indicates low temp
- Note: The 305 series Mercotac™ connector comes standard with stainless steel ball bearings

Accessories

Connector options are noted below. They are not included with a 305 Mercotac purchase. Order the desired connector(s) separately.

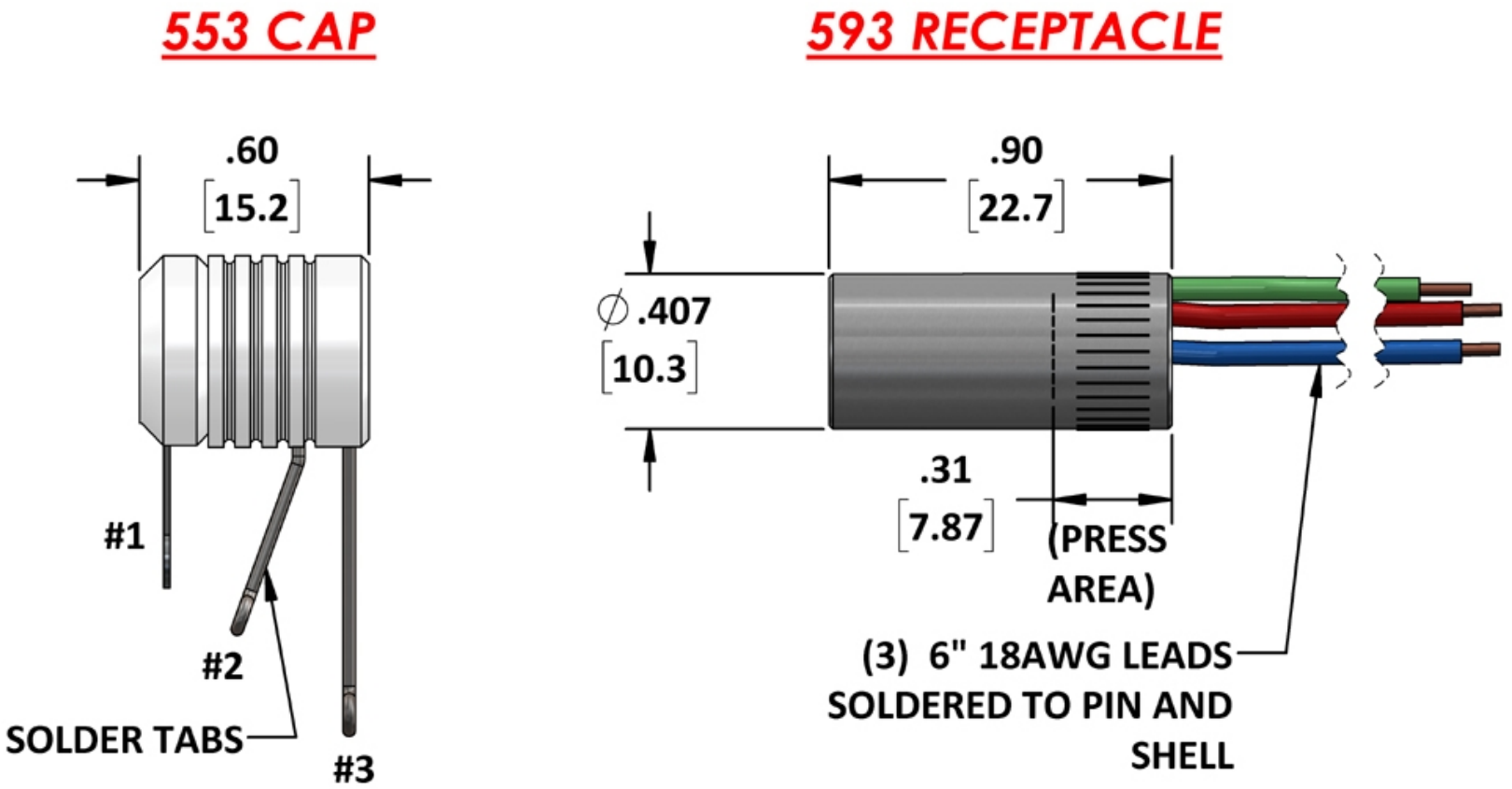
Description: Three Contact Receptacle
Item #: 593

- With pre-attached 6” wires (18 AWG)
- Suitable up to 4 Amps

Description: Three Contact Cap
Item #: 553

- With three solder lugs for 18 AWG wire
- Suitable up to 4 Amps

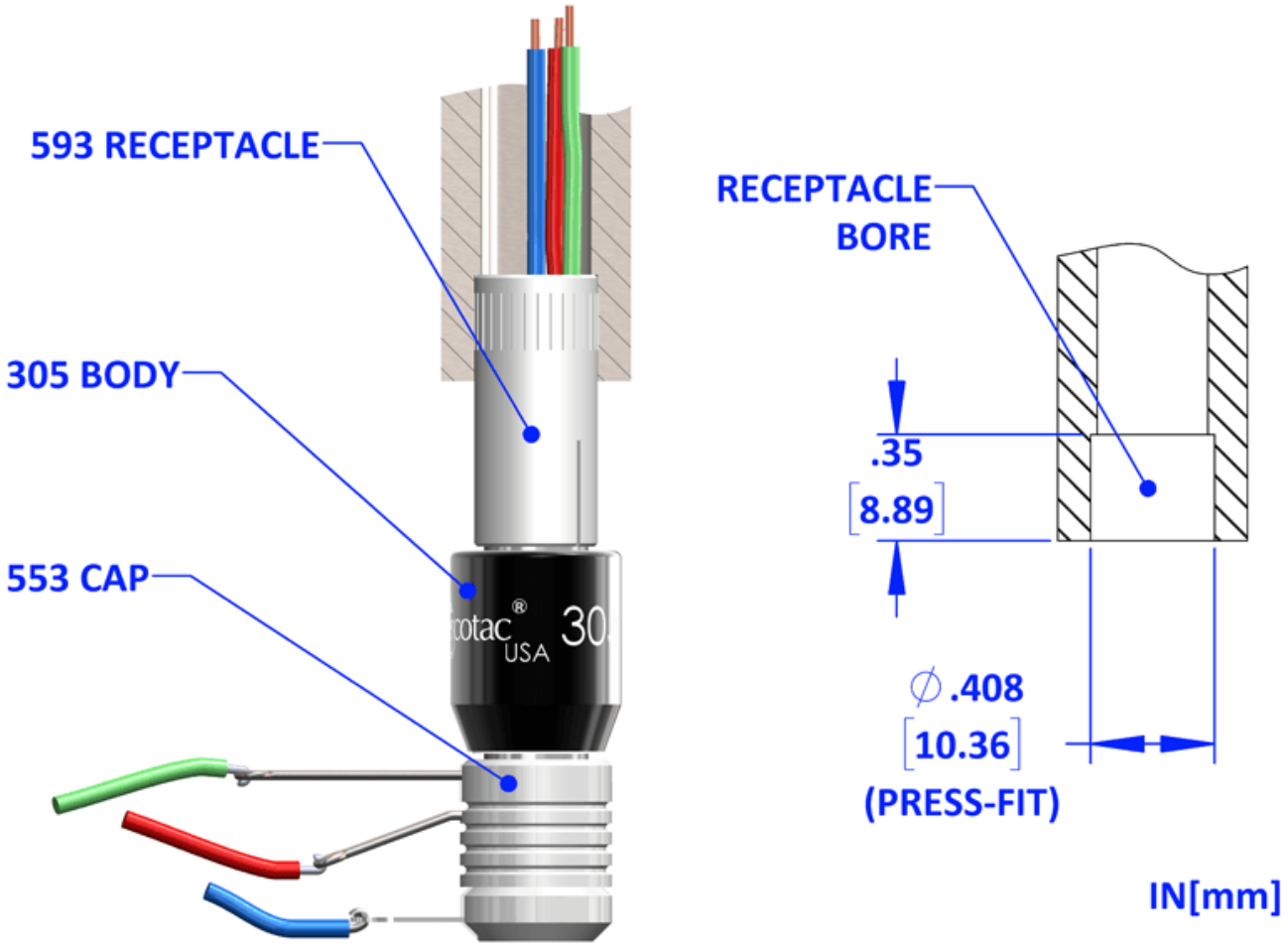
A receptacle is used for mounting to the rotating device. The accessories are required for wire connections, since the Mercotac units cannot be soldered to directly. Order Separately.



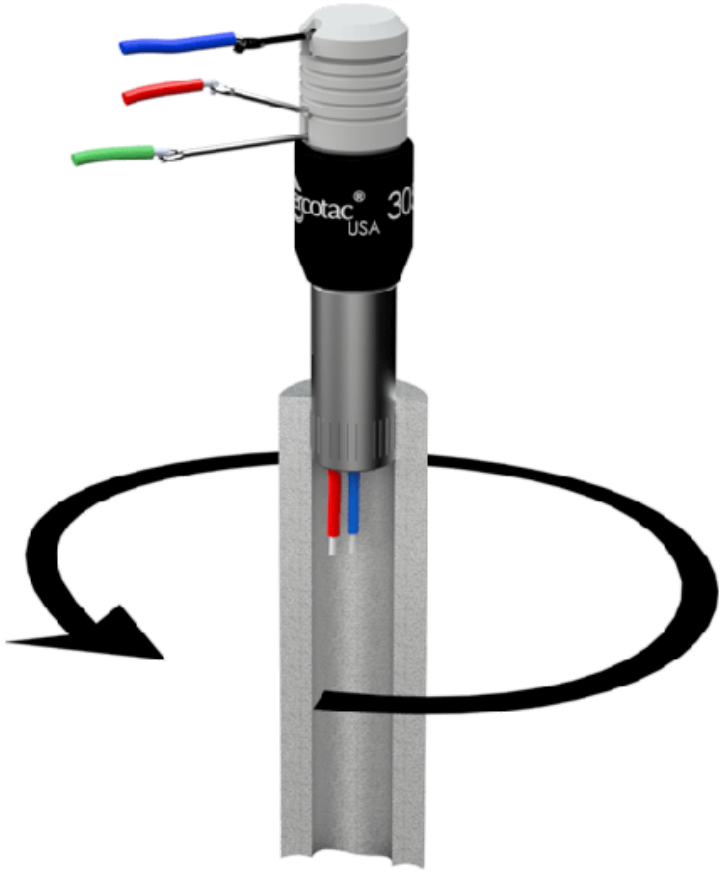
Mounting

Model 305 is typically mounted by the knurled metal receptacle, which is press-fit into the rotating member of the machine. When used horizontally, mount the Mercotac so the body of the connector rotates.

Receptacle Mount

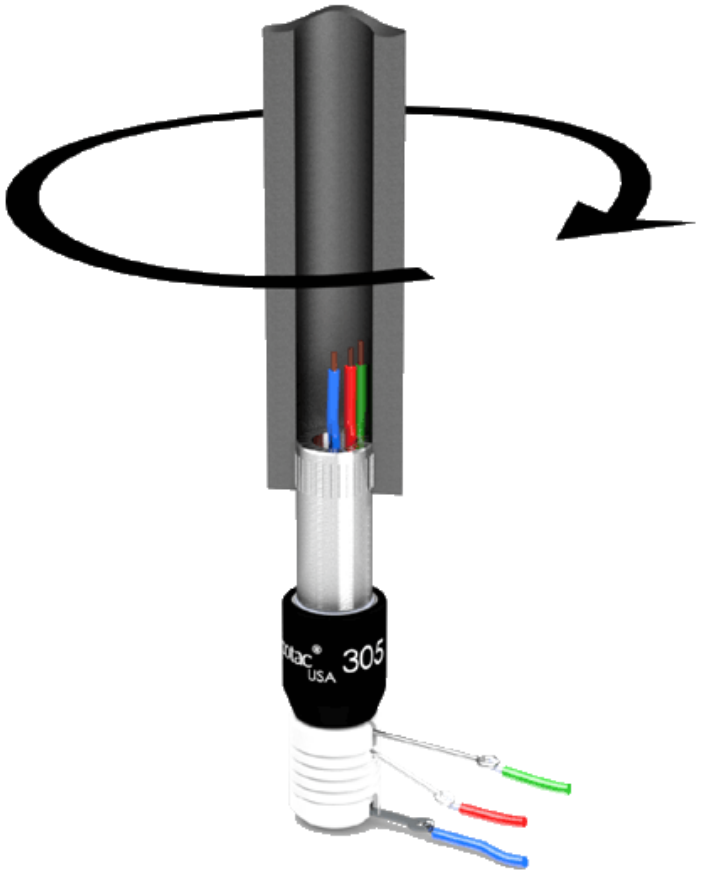

593 RECEPTACLE
305 BODY
553 CAP
RECEPTACLE BORE
.35
[8.89]
∅.408
[10.36]
(PRESS-FIT)
IN[mm]

Bottom Mount with Conductive Shaft



Preferred mounting orientation.

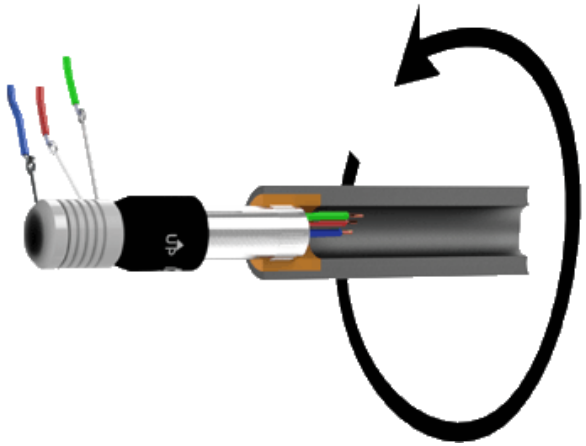
Top Mount with Conductive Shaft



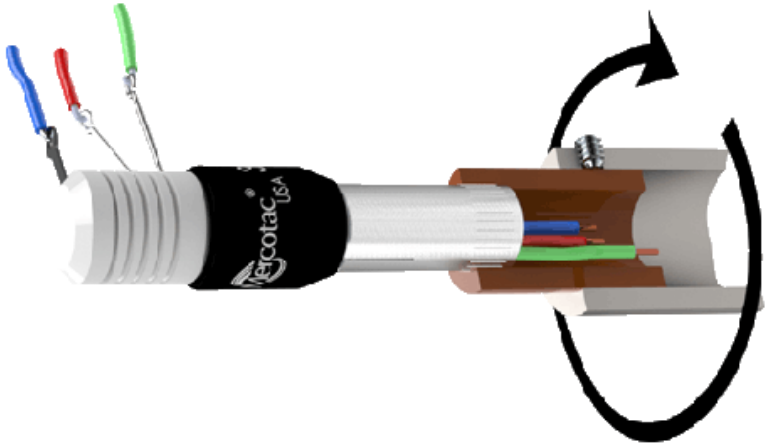
Use for top rotation.

Horizontal Mount with Electrically Insulated Shaft

Thermal & Electrically Insulated Horizontal Mount



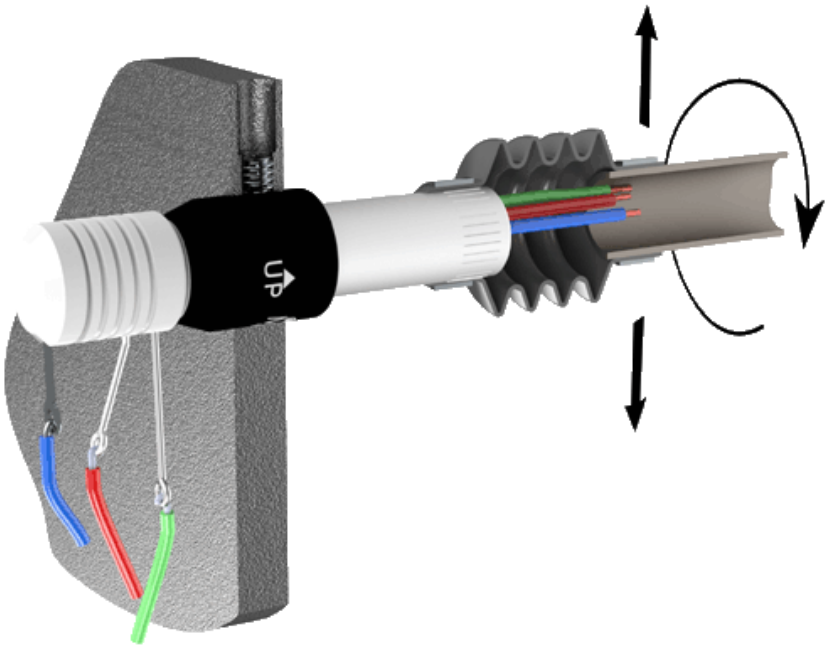
The Mercotac body is electrically hot. An electrically insulated shaft can isolate it, if needed.

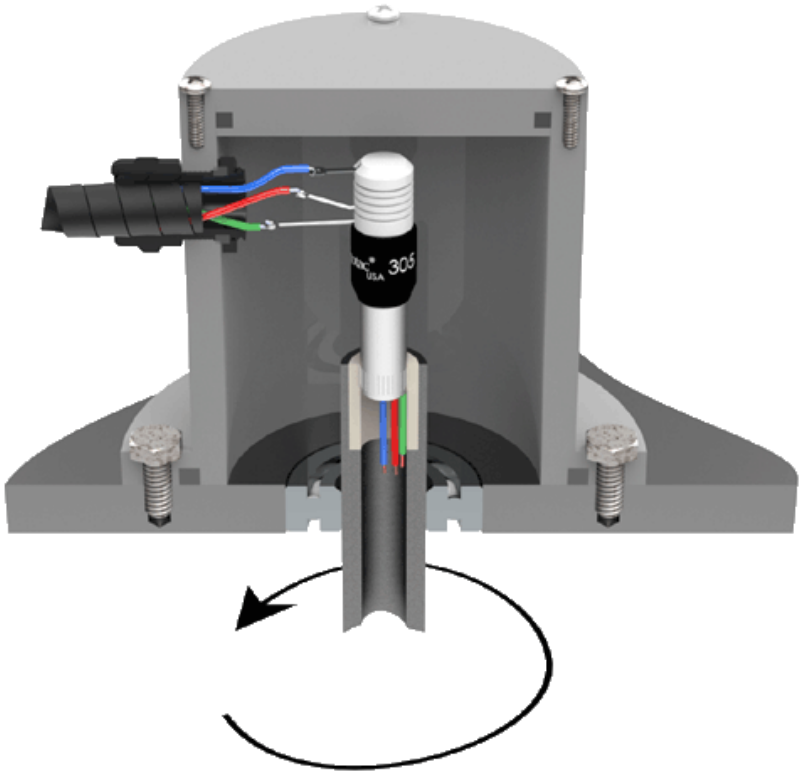


Use if electrical and thermal insulation is needed.

Protective Housing Mount with Insulated Shaft

Vibration Isolating Mount





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 305 Standard Wire Connections

The plastic cap with solder lugs attach to stationary wires.

The metal receptacle press fits into rotating member of machine.

Model 305 plugs into the receptacle after the receptacle is press fit into the rotating member of the machine.

The cap plugs onto the stationary end of the 305 for the attachment of stationary wires.

Applications

The Mercotac model 305 brushless slip rings are utilized in wind turbines, sewer inspection equipment, aviation systems, and electric heating systems. They enable seamless transmission of power, data, and control signals between stationary and rotating components, maximizing performance and productivity. In wind turbines, these slip rings ensure efficient operation and control. In sewer inspection equipment, they facilitate reliable transmission of the video signals and power for the lights. In aviation systems, Mercotac slip rings transmit signals, power, and data for critical functions, such as rotating drone cameras. In electric heating systems, they enable efficient and controlled heating operations.

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 Materials, Bearing Types, Conductors/Terminals, Thread Sizes,

Learn about Mercotac® Electrical Characteristics: Voltage Rating, Current Rating, Contact Resistance, Circuit Separation, Operating Temperature,

Learn about Mercotac® Rotational Characteristics: Rotational Speed, Rotational Torque.
Learn More

Mounting Options.
Learn More

Frequency.
Learn More

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