



# Model 205 Brushless Slip Ring

**Conductors: Two Conductor**

**Amps: 4**

The Mercotac® model 205 brushless slip rings are ideal for thermocouples, strain gages, eddy current test devices, and wind turbine blade sensors due to their compact size, reliable quality signal connection, low torque and low cost. The model 205 replaced the model 590, which was the pioneering brushless slip ring designed specifically for the Leslie Organ Speaker.

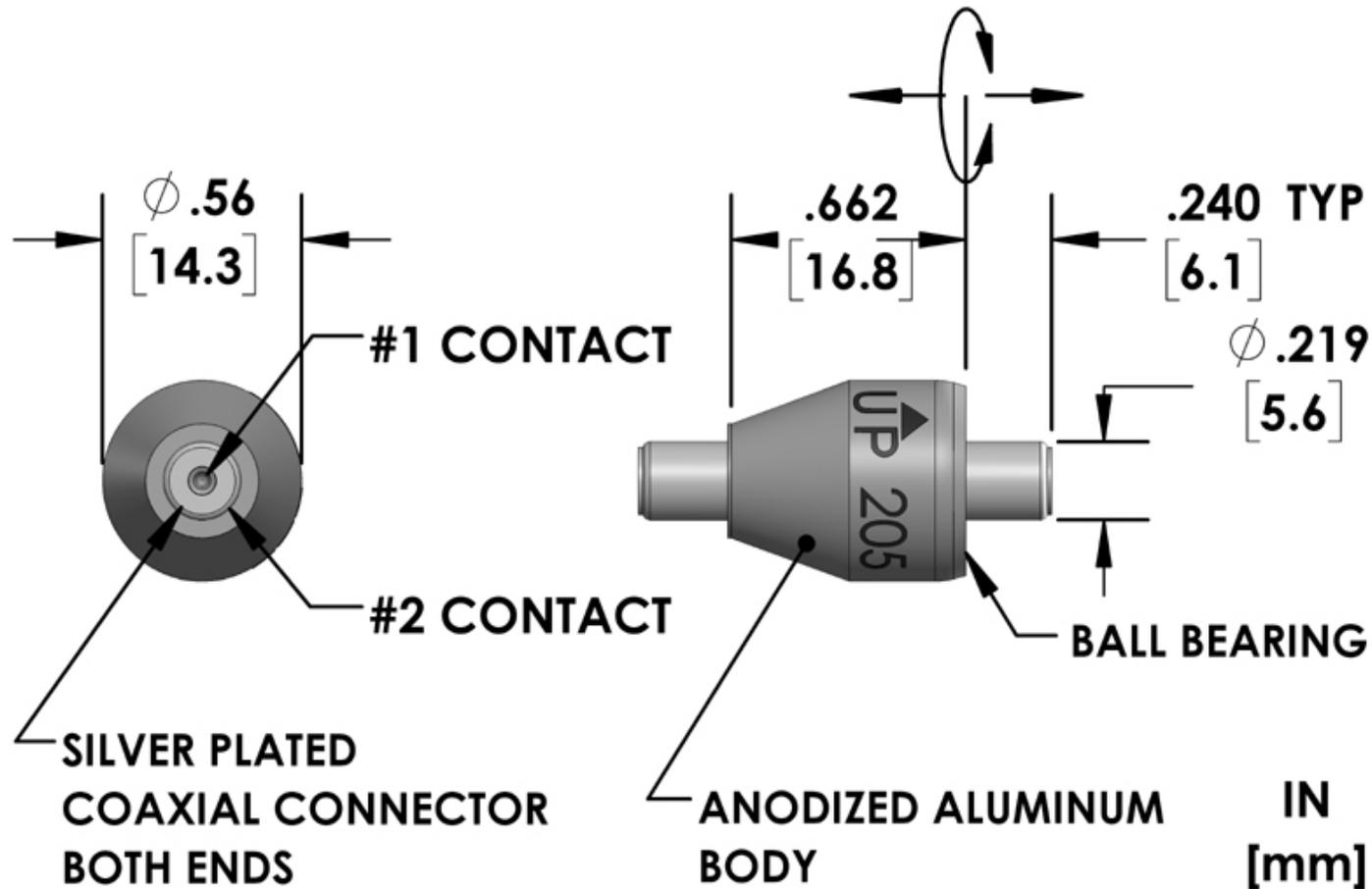
## Advantages:

- 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 205 Product Specifications

## Dimensions



## Details:

- Disconnects are not included.
- Available with stainless steel ball bearing (205-SS, 205-LS, and 205-HS) (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)
205	2	Anodized Aluminum	Chrome Steel	75	250	4	2000	<b>Min</b> 45 (7) <b>Max</b> 140 (60)	200	<1	>25
205-SS			Stainless Steel								
205-L			Chrome Steel	20			1200	<b>Min</b> -20 (-29) <b>Max</b> 140 (60)			
205-LS			Stainless Steel	75							
205-H			Chrome Steel	35			3600	<b>Min</b> 45 (7) <b>Max</b> 140 (60)			
205-HS			Stainless Steel								

- "SS" designator indicates stainless steel ball bearing (recommended for wet or corrosive environments)
- "L" designator indicates low torque/low temp.
- "LS" designator indicates low temp. & stainless steel ball bearing
- "H" designator indicates high RPM
- "HS" designator indicates high RPM & stainless steel ball bearing

### Accessories

Connector options are noted below. They are not included with a 205 Mercotac purchase. Order the desired connector(s) separately.

**Description:** Two Contact Receptacle  
**Item #:** 591

**Description:** Two Contact Receptacle  
**Item #:** 592

- With two pre-attached 6" wires (18 AWG)

- With one pre-attached 6" wire (18 AWG), center contact
- Customer may solder their own wire in the outer contact hole (18 AWG recommended)
- Suitable up to 4 Amps



- Suitable up to 4 Amps



**Description:** Two Contact Receptacle with Solder Holes  
**Item #:** 594

- Two solder holes for 18 AWG wires
- Suitable up to 4 Amps

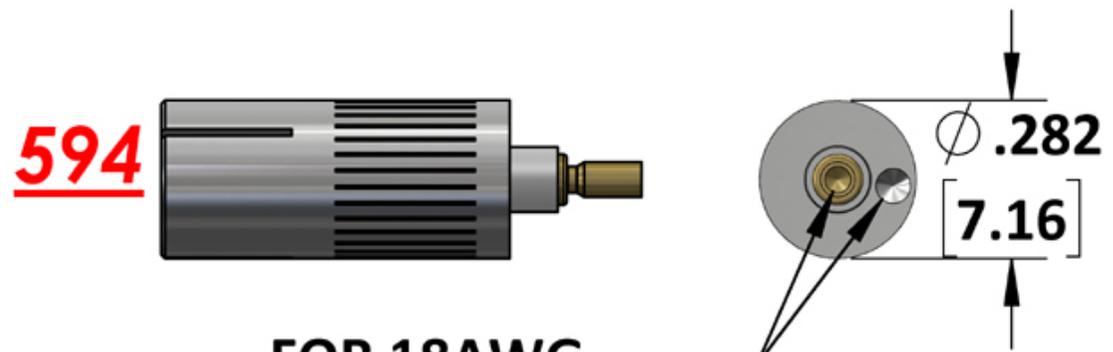
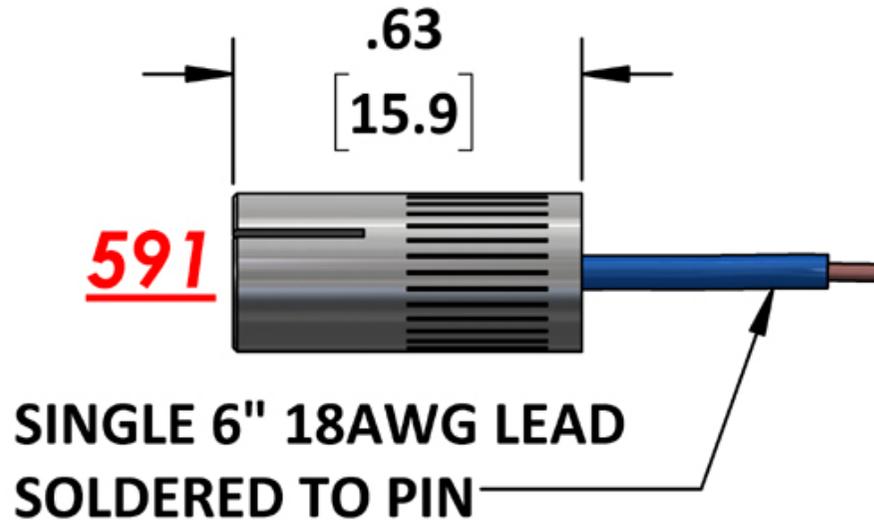
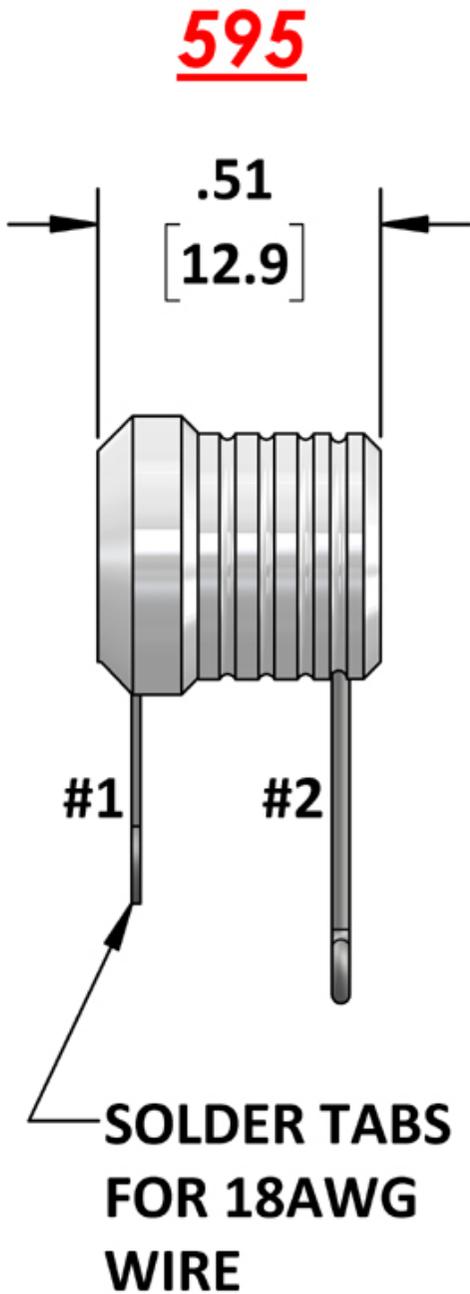


**Description:** Two Contact Cap  
**Item #:** 595

- With two solder lugs for 18 AWG wires
- 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.



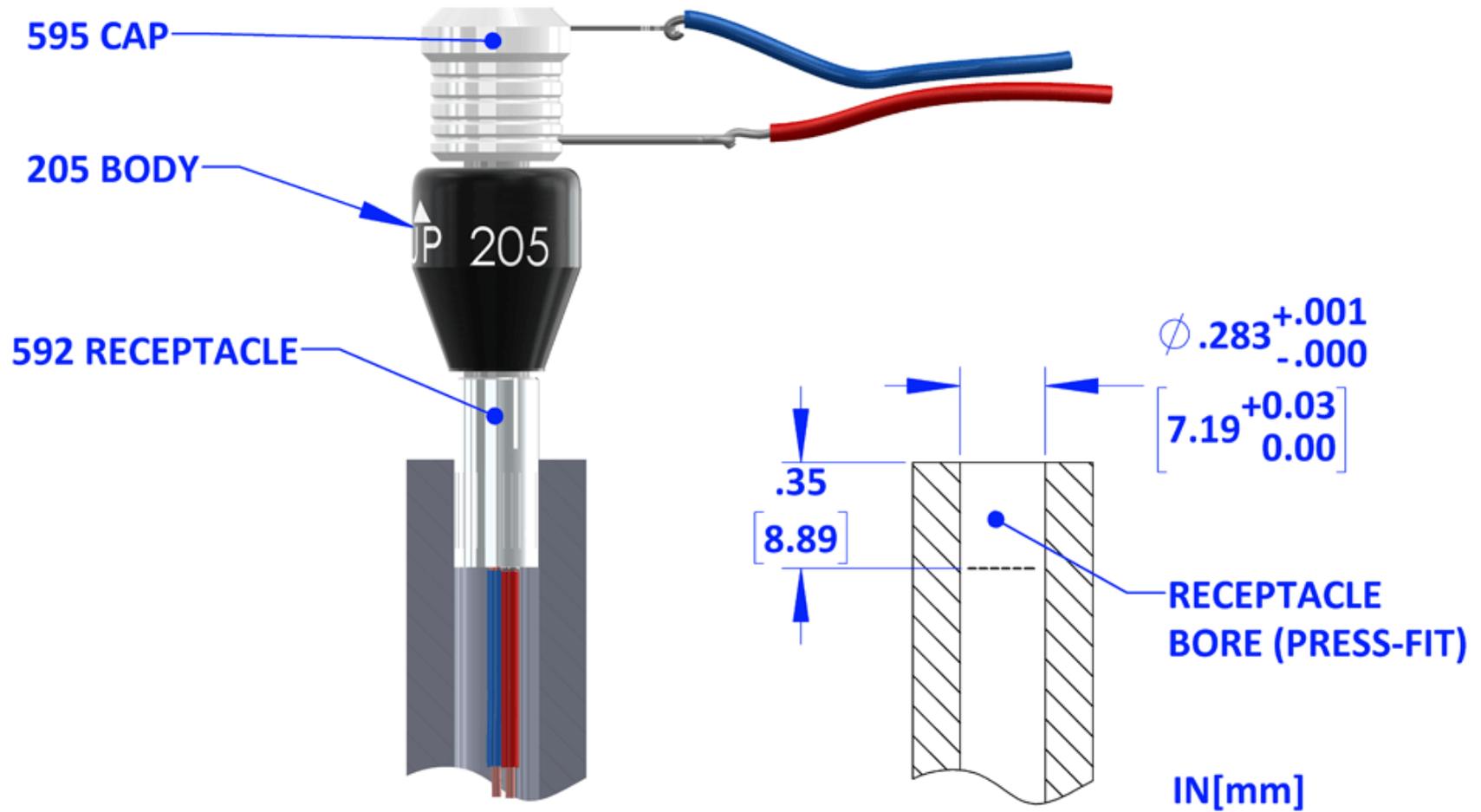
# FOR 18AWG

## WIRE

### Mounting

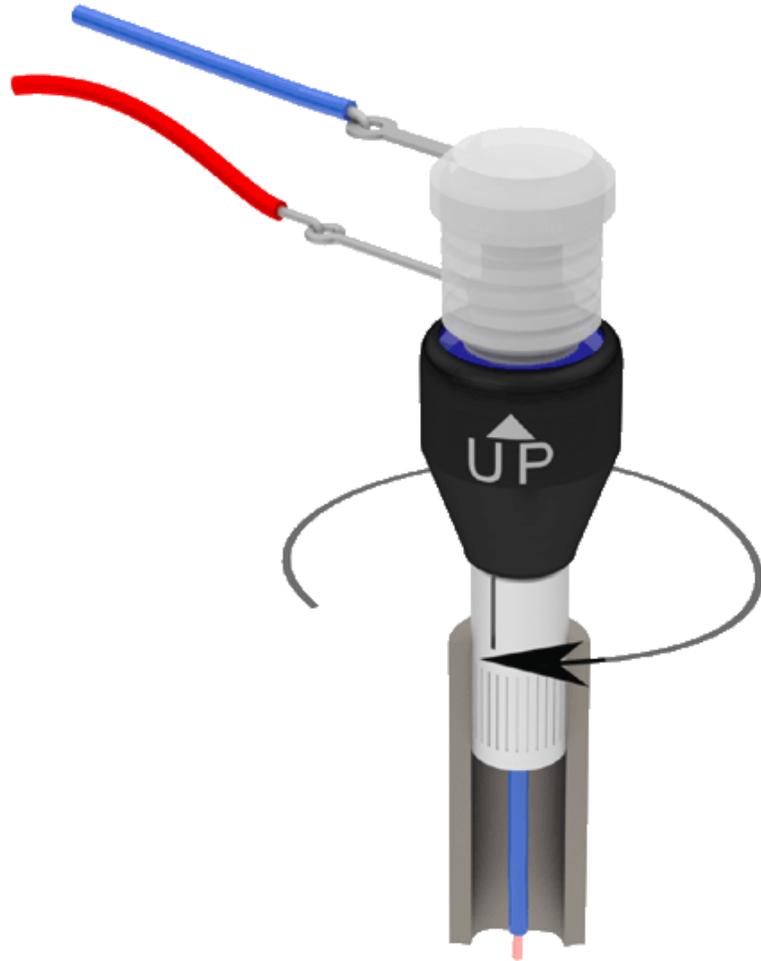
Model 205 is typically mounted by either the black body or the contact. Body mount typically uses a set screw or split clamp. Contact mount is held in the installed receptacle by a spring fit. It is best to mount the Mercotac so the body of the connector rotates. When used horizontally, mount the Mercotac so the body of the connector rotates.

### Receptacle Mount



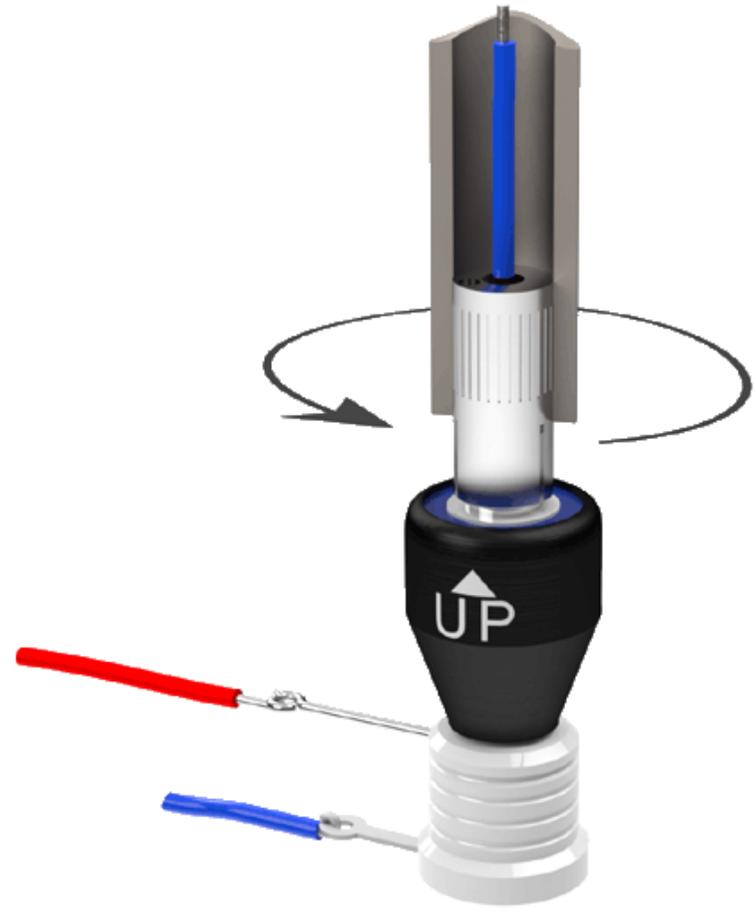
Bottom Mount with Conductive Shaft

Top Mount with Conductive Shaft



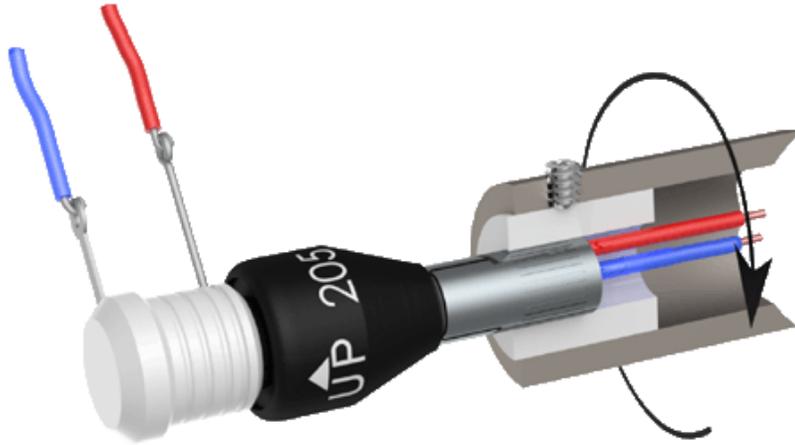
Preferred mounting orientation.

**Horizontal Mount with Electrically Insulated Shaft**

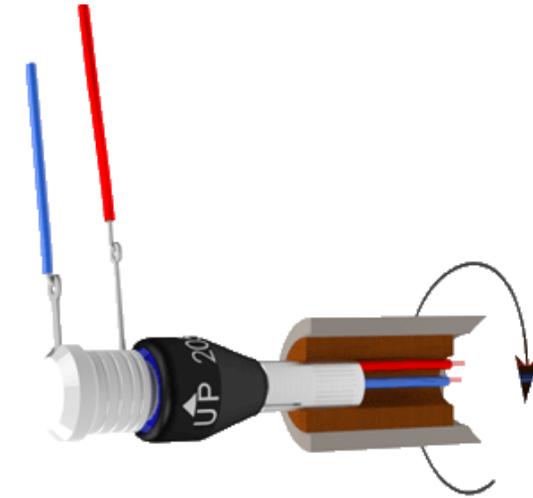


Use for top rotation.

**Thermal & Electrically Insulated Horizontal Mount**



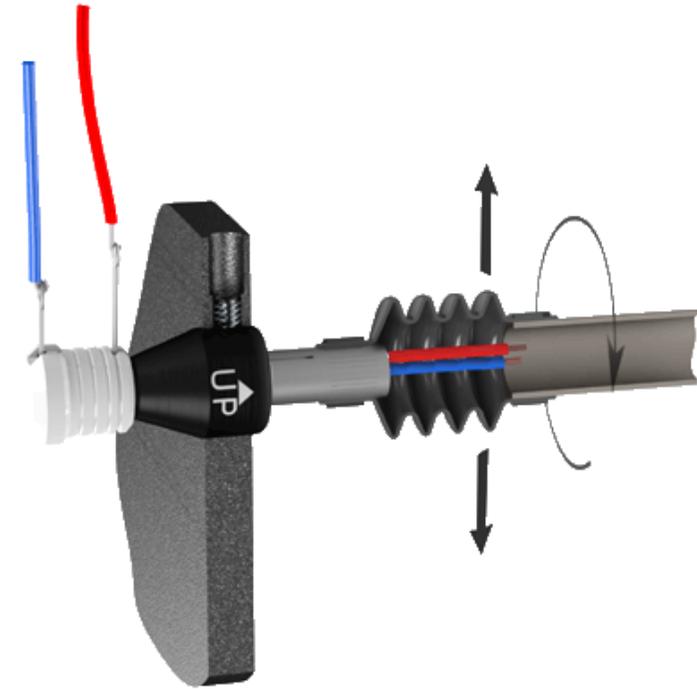
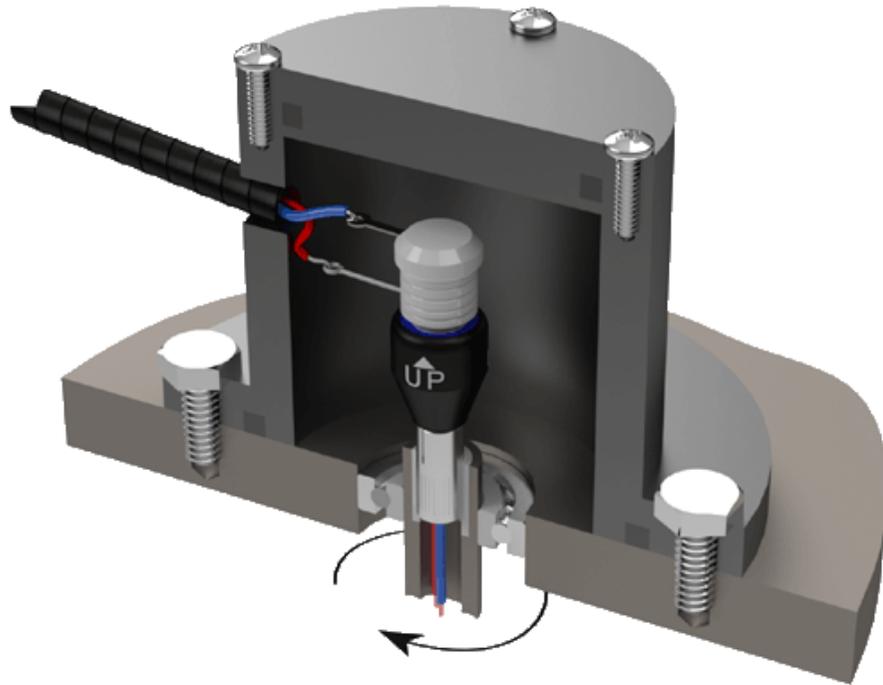
The Mercotac body is electrically hot. An electrically insulated shaft can isolate it, if needed.



Use if electrical and thermal insulation is needed.

### Protective Housing Mount with Conductive 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 205 Standard Wire Connections



The plastic cap with solder lugs attach to stationary wires

The metal receptacle press fits into rotating member of machine.



Model 205 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 205 for the attachment of stationary wires.

## Applications

The Mercotac model 205 brushless slip rings meet the requirements of various applications such as thermocouples, strain gages, eddy current test devices, and wind turbine blade sensors. With their compact size, reliable signal connection, low torque, and affordable cost, they are an excellent choice for these applications. It offers enhanced performance and functionality. Notably, the model 205 improves upon its predecessor, the model 590, originally designed for the Leslie Organ Speaker to make the connection between the electric organ and the rotating speaker. After a multitude of attempts it was the only slip ring able to make this high-fidelity connection.

In the sewer inspection application, as shown in the picture to the left, the Model 205 can be used on the cable reel to power the lights



or to transfer the video signals to the cable as it is unrolled from the reel. As well as other video inspection applications, they are also used for tea bag machines and non-destructive eddy current crack detection of aircraft fuselage.

These slip rings also find relevance in instrumentation, test and measurement equipment, and robotics. They provide stable signal transmission in instrumentation systems, ensure accurate signal transmission in test and measurement equipment, and enable smooth robotic movements. The Mercotac model 205 brushless slip rings are a reliable and cost-effective solution for a range of applications, maintaining efficient and reliable electrical connections in diverse industries.

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, Mounting Options.  
[Learn More](#)



**Learn about Mercotac® Electrical Characteristics:** Voltage Rating, Current Rating, Contact Resistance, Circuit Separation, Operating Temperature, Frequency.  
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**Learn about Mercotac® Rotational Characteristics:** Rotational Speed, Rotational Torque.  
[Learn More](#)

## Mercotac, Inc.

Phone: (760) 431 7723  
Fax: (760) 431 0905

6195 Corte del Cedro, #100,  
Carlsbad, California 92011 USA

Sales: [sales@mercotac.com](mailto:sales@mercotac.com)  
Support: [techsupport@mercotac.com](mailto:techsupport@mercotac.com)

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