Model 105 & Model 110T Brushless Slip Ring

Conductors: One Conductor
Amps: 4 or 10
RPM: 7500 or 3600

The Mercotac® models 110-T and 105 brushless slip rings are used to provide reliable shaft grounding solutions, making them highly suitable for HVAC and VFD motor shaft grounding applications These models ensure efficient electrical grounding, minimizing the risk of costly bearing damage and enhancing overall system performance. The model 110-T is also used in low current plating and welding applications. Typically the model 105 is used in higher rpm applications. These slip rings excel in industries such as electroplating, automation machinery, mineral processing, and welding.

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

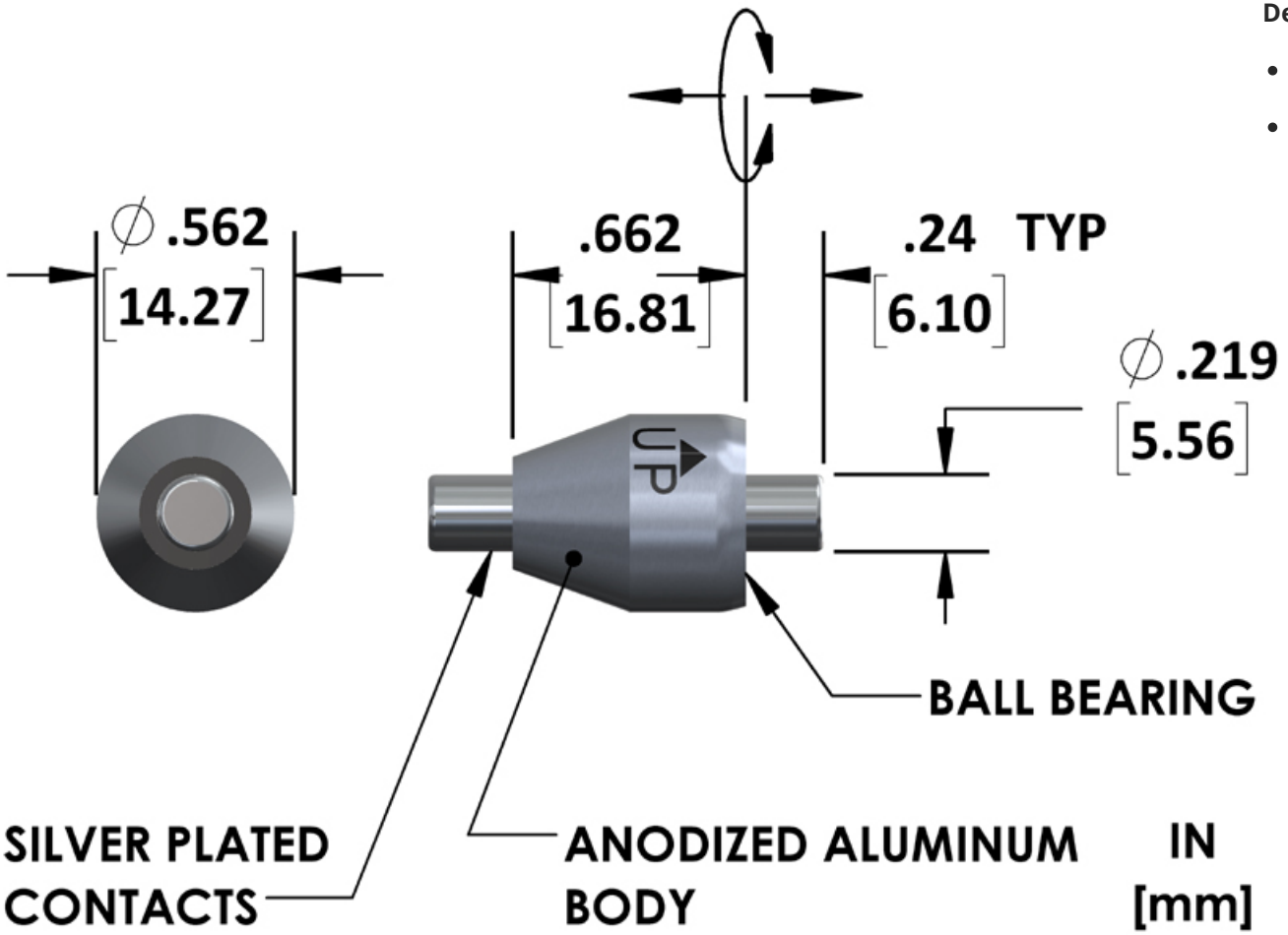
Model 105

Model 110T

SPEC SHEET CAD DOWNLOAD

Model 105 & Model 110T Product Specifications

Dimensions



Details:

- Disconnects are not included.
- Available with stainless steel ball bearing (105-SS & 110-TS) (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)
110-T	first	Anodized Aluminum	Chrome Steel	35	N/A	ten	3600	**Min** -20 (-29) **Max** 140 (60)	200	<1	N/A
110-Dr			Stainless Steel								
110-TL			Chrome Steel	ten			1200				
105			Chrome Steel	<10		4	7500	**Min** 45 (7) **Max** 140 (60)			
105-SS			Stainless Steel								

- "T" designator indicates standard model (receptacle mount)
- "TS" designator indicates stainless steel ball bearing (recommended for wet or corrosive environments)
- "TL" designator indicates low torque
- "SS" designator indicates stainless steel ball bearing (recommended for wet or corrosive environments)
- Note: The body of the 110-T / 105 series Mercotac is electrically "hot" to the internal conductor

Accessories

Connector options are noted below. They are not included with a 105/110T Mercotac purchase. Order the desired connector(s) separately.

Description: One Contact Receptacle
Item #: 5920

- One solder holes for 18 AWG wire
- Suitable up to 4 Amps

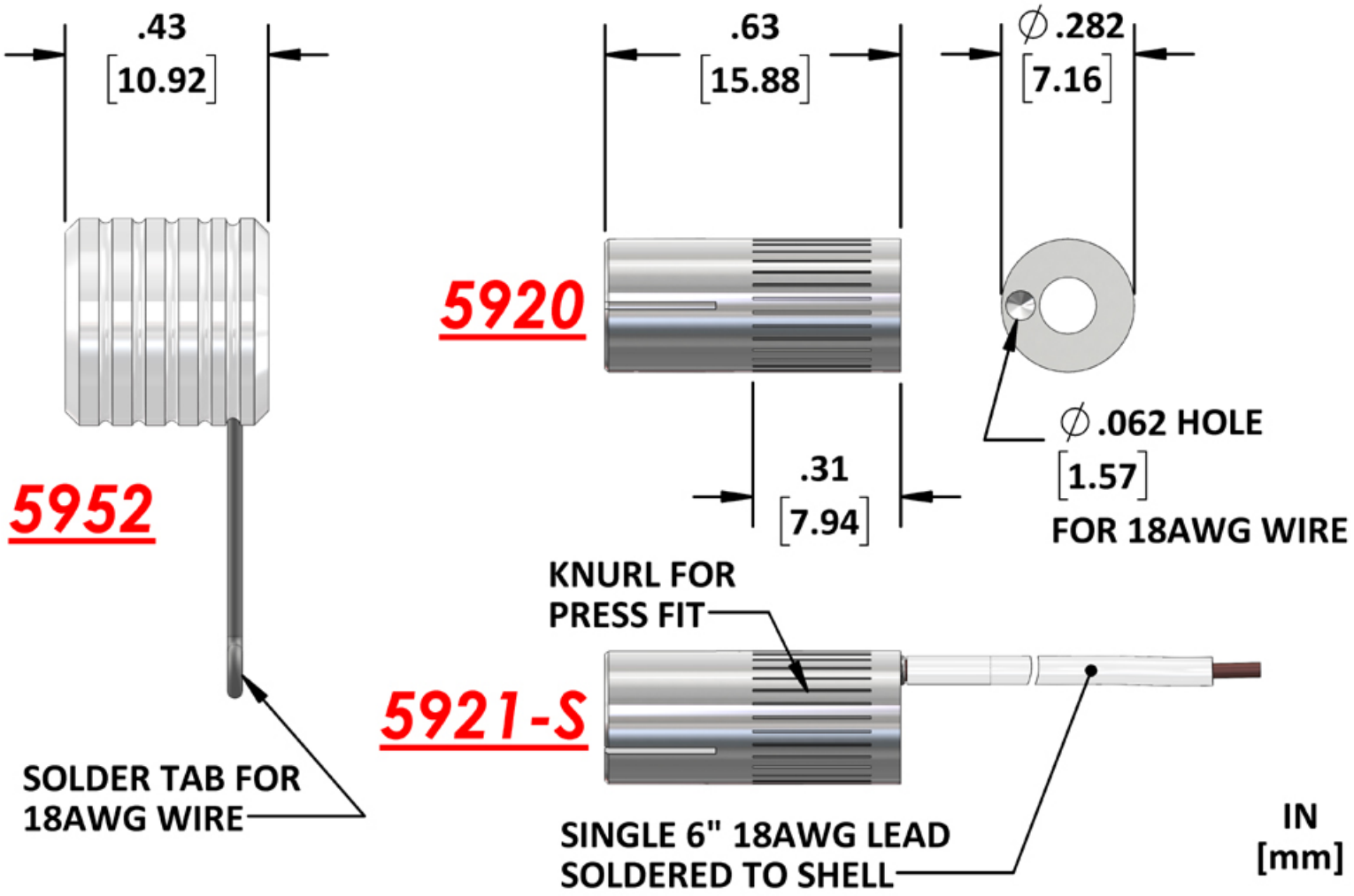
Description: One Contact Receptacle
Item #: 5921-S

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

Description: One Contact Cap
Item #: 5952

- With one solder lug for 18 AWG wire
- Suitable up to 4 Amps

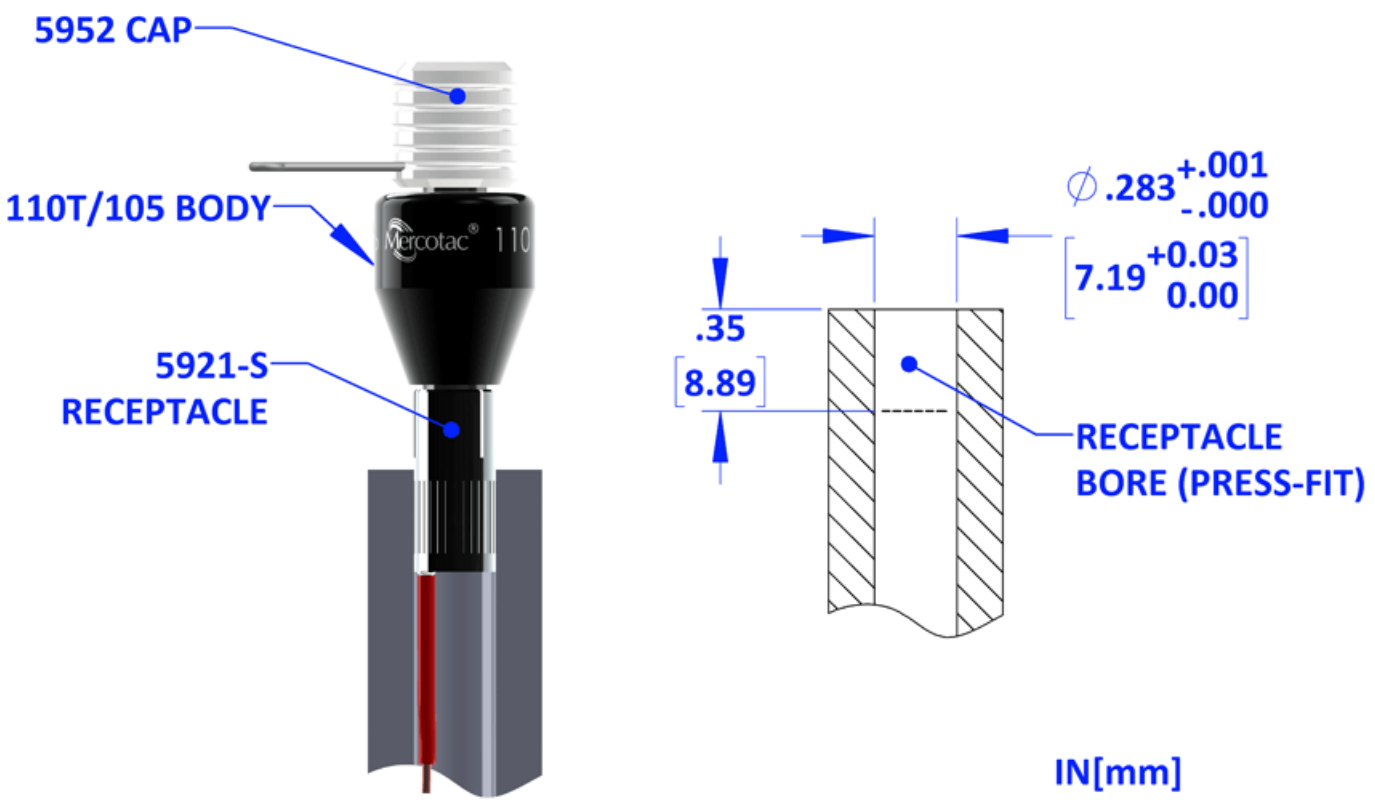
Description: A receptacle is used for mounting to the rotating device. The accessories are required for wire connections, since the Mercotac units cannot be soldered to directly. Order Separately.



Mounting

Models 105 & 110T are typically mounted by either the black body or the contact on either end. 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

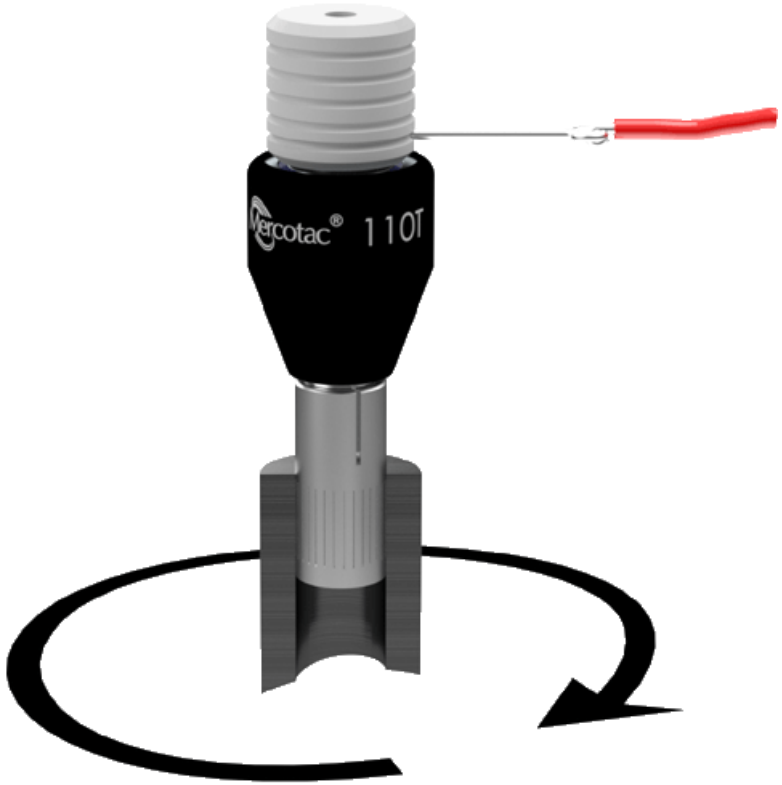
Receptable Mount



Top Mount with Conductive Shaft

Bottom Mount with Conductive Shaft

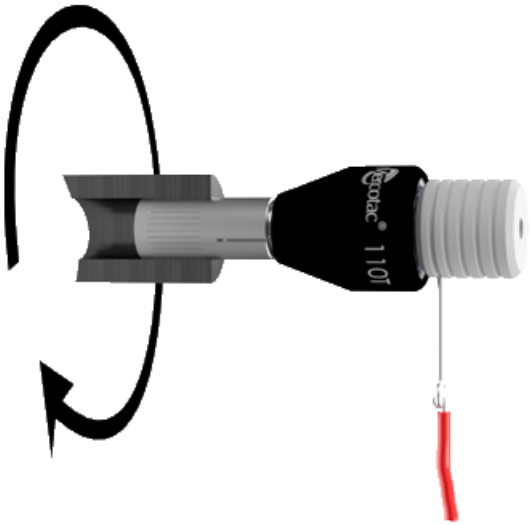
Preferred mounting orientation.

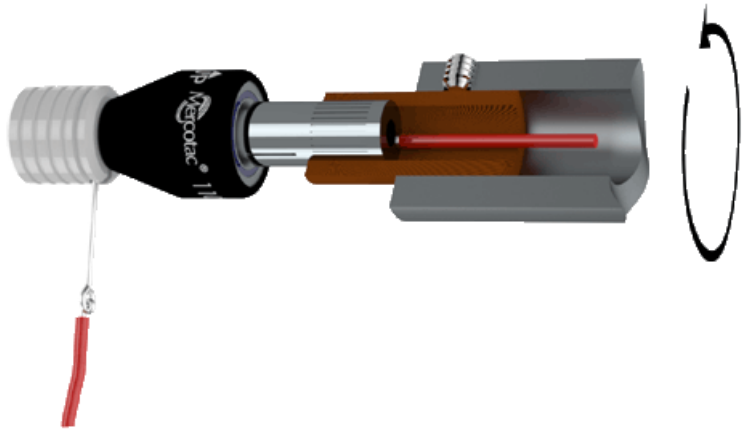


The Mercotac body is electrically hot. An electrically insulated shaft can isolate it, if needed.

Horizontal Mount with Conductive Shaft

Thermal & Electrically Insulated Horizontal Mount

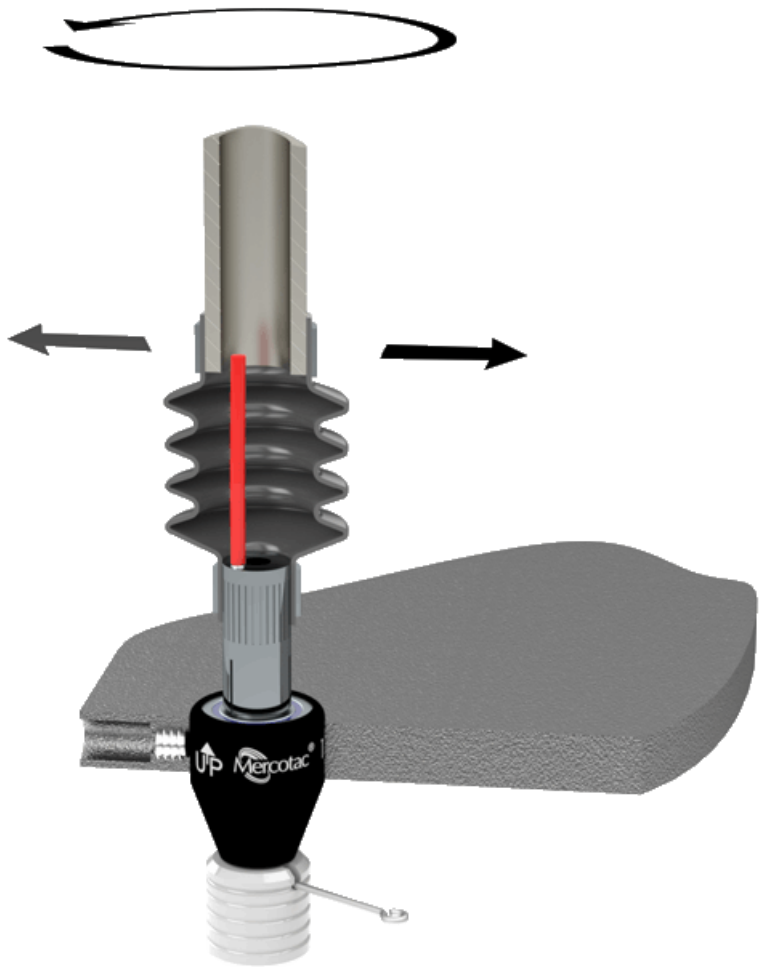


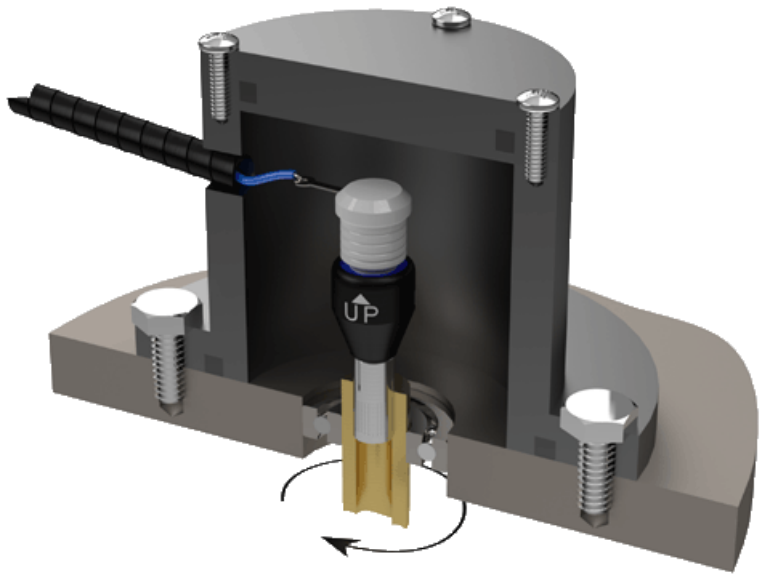


Use if electrical and thermal insulation is needed

Vibration Isolating Mount

Protective Housing Mount with Conductive Shaft





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 105 & Model 110T Standard Wire Connections

Metal receptacle press fits into rotating member of machine.

Plastic cap with solder lug to attach stationary wire.

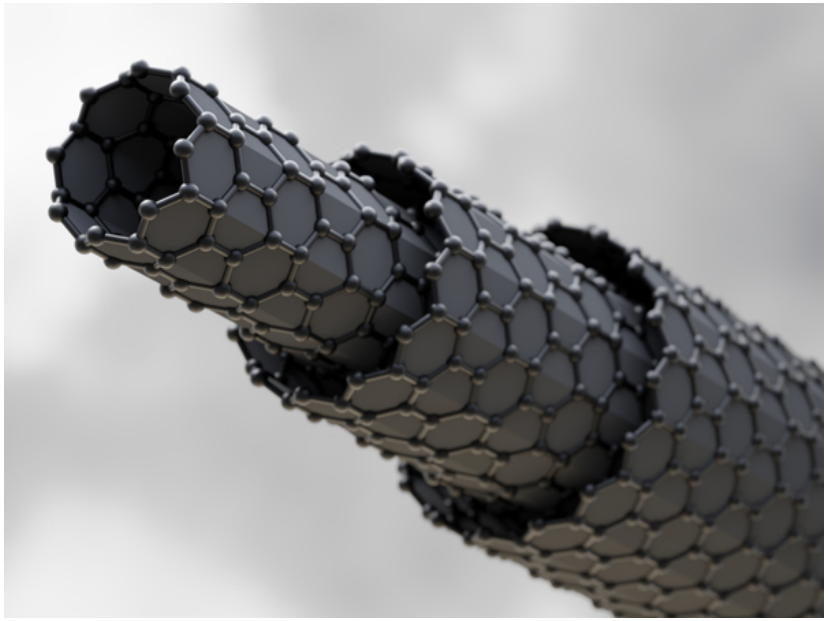
The Mercotac unit plugs into the receptacle after the receptacle is press fit into the rotating member of the machine.

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

Applications

Mercotac models 110-T and 105 brushless slip rings excel in a wide range of applications, including electroplating, automation/electronic controls/machinery industry, packaging industry, and heated rollers.

In the plating industry, these models are used for both the rotating electrodes in strip plating lines as well as for electroforming where a part is formed on the rotating electrodes by electro depositing of metal. The welding industry uses these as an electrical connection for spot welding where the part is moving, for example on turntables. In motors that use VFD (variable frequency drives), these models are used to ground the voltage induced on the motor shaft protecting the ball bearings from EDM damage



Mercotac slip rings find their place in cutting-edge technologies such as carbon nanotube production and 3D metal printing, where precision and reliability are paramount. The mineral processing industry also relies on these slip rings for efficient and consistent operation in demanding environments. With their proven track record and versatile capabilities, Mercotac models 110-T and 105 brushless slip rings are trusted solutions across multiple 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,

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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