



Model 104 & Model 110 Brushless Slip Ring

Conductors: One Conductor

Amps: 4 or 10

RPM: 7500 or 3600

The Mercotac® model 110 brushless slip ring is designed for up to 10A applications where a single channel is needed. The Mercotac model 104 while having a lower current rating is designed for higher RPM applications. These models are intended to be mounted at the bottom of a vertical rotating shaft or wherever a threaded stud mount or connection is required. Commonly used in plating, grounding, and static charge applications they are also suitable for microelectronics, moisture sensing, wire metal fatigue testing, and more.

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 104



Model 110





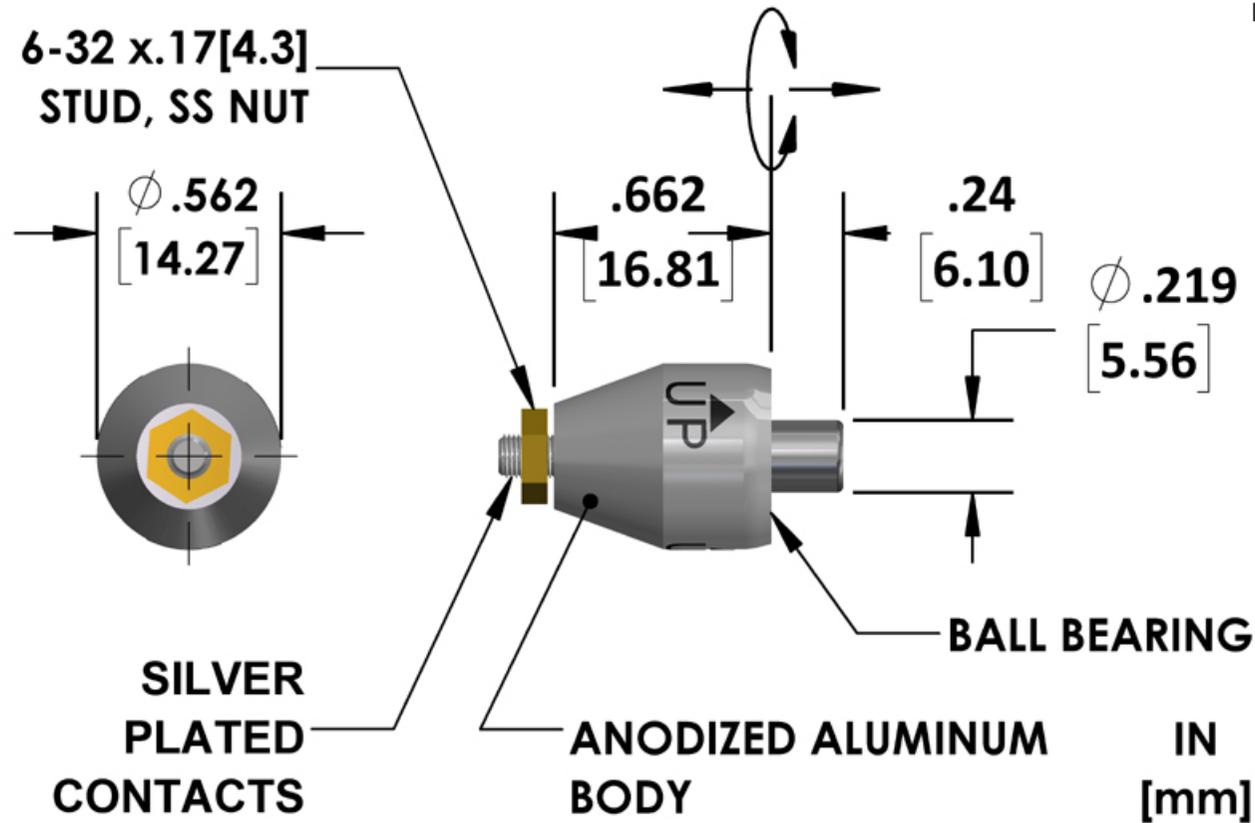
SPEC SHEET



CAD DOWNLOAD

Model 104 & Model 110 Product Specifications

Dimensions



Details:

- Disconnects are not included.
- Available with stainless steel ball bearing (104-SS & 110-SS) (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)
104	1	Anodized Aluminum	Chrome Steel	<10	N/A	4	7500	Min 45 (7) Max 140 (60)	200	<1	N/A
104-SS			Stainless Steel								
110			Chrome Steel	35		10	3600	Min -20 (-29) Max 140 (60)			
110-SS			Stainless Steel								
110-L			Chrome Steel								

- "SS" designator indicates stainless steel ball bearing (recommended for wet or corrosive environments)
- "L" designator indicates low torque (may only be operated vertically)
- Note: The body of the 104 & 110 series Mercotac is electrically "hot" to the internal conductor

Accessories

Connector options are noted below. They are not included with a 104/110T Mercotac purchase. Order the desired connector(s) separately.

Description: One Contact Receptacle
Item #: 5920

- One solder holes for 18 AWG wire
- Suitable up to 10 Amps



Description: One Contact Receptacle
Item #: 5921-5

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



Description: Ring Terminal
Item #: 55337

- For 12-10 AWG wires



Description: One Contact Cap
Item #: 5952

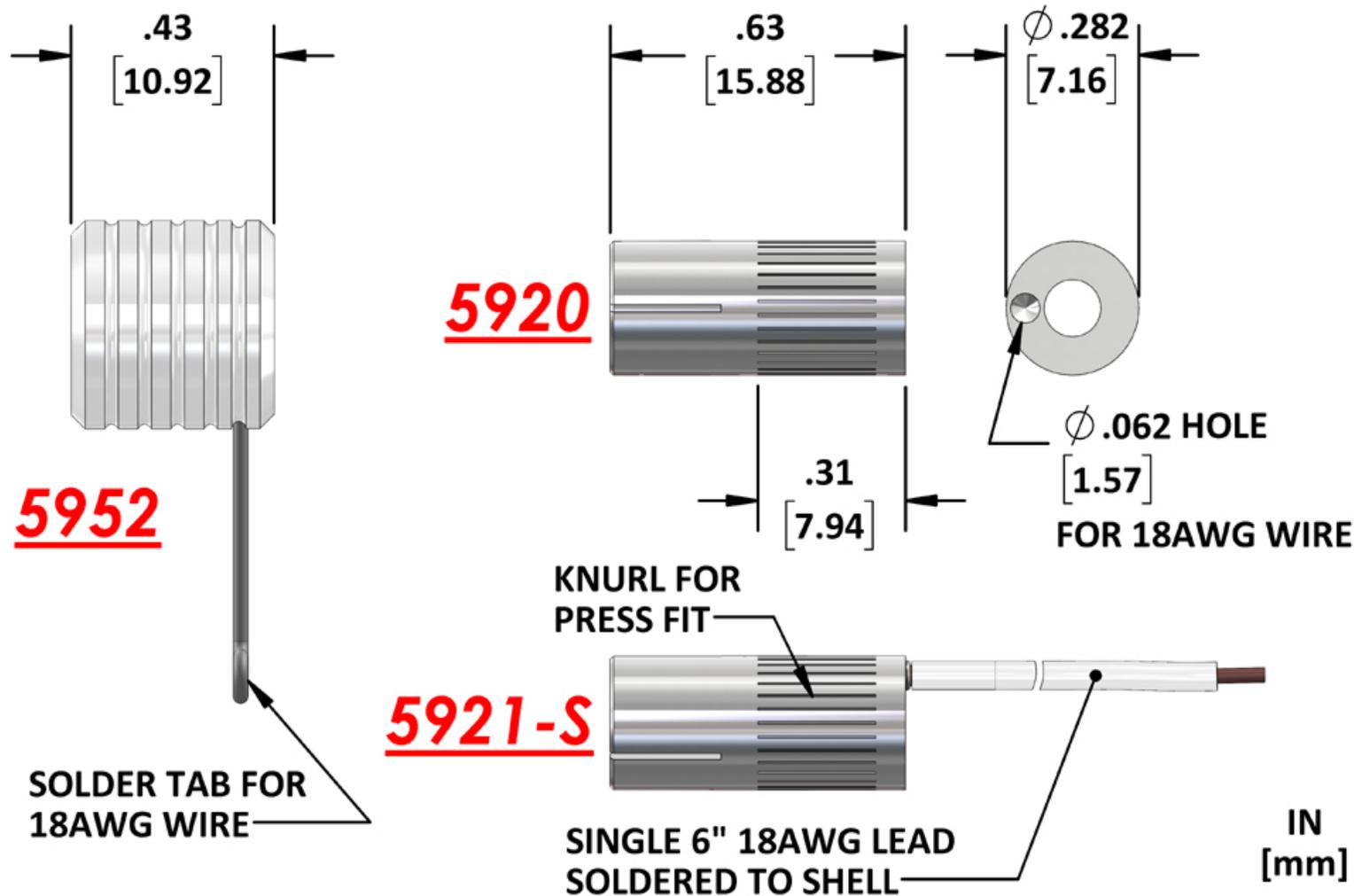
- With one solder lug for 18 AWG wire



- Suitable up to 10 Amps

- Suitable up to 4 Amps

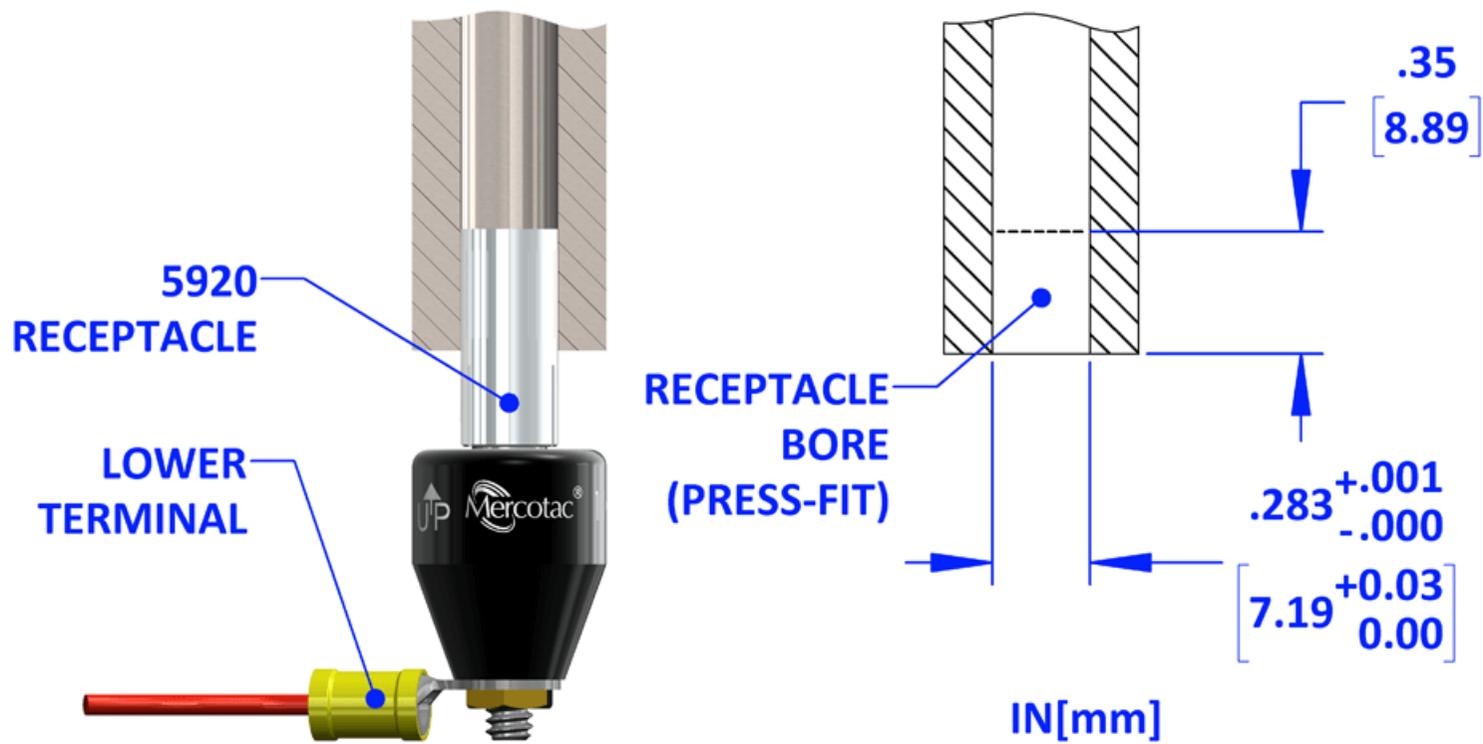
Description: A receptacle is used for mounting to the rotating device. The accessories are required for wire connections, since the Mercotac units cannot be soldered to directly. Order Separately.



Mounting

Models 104 & 110 are typically mounted by either the black body or the top contact. When used horizontally, mount the Mercotac so the body of the connector rotates

Receptacle Mount



Bottom Mount with Conductive Shaft

Vertical Mount with Electrically Insulated Shaft



Preferred mounting orientation.

Horizontal Mount with Electrically Insulated Shaft

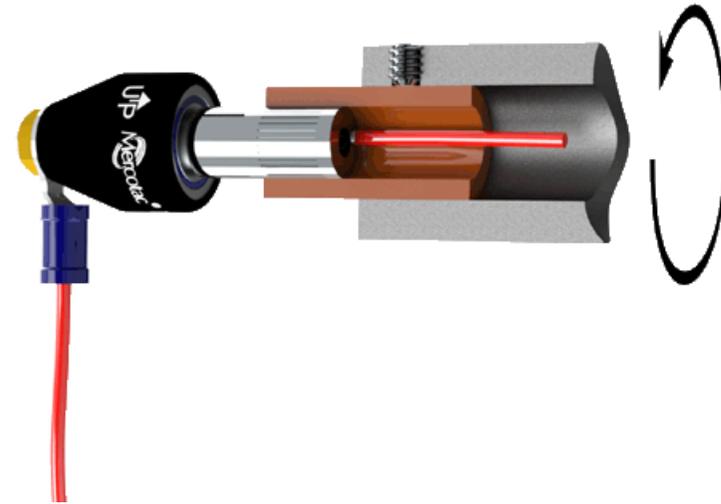


The Mercotac body is electrically hot. An electrically insulated shaft can isolate it, if needed.

Thermal & Electrically Insulated Horizontal Mount



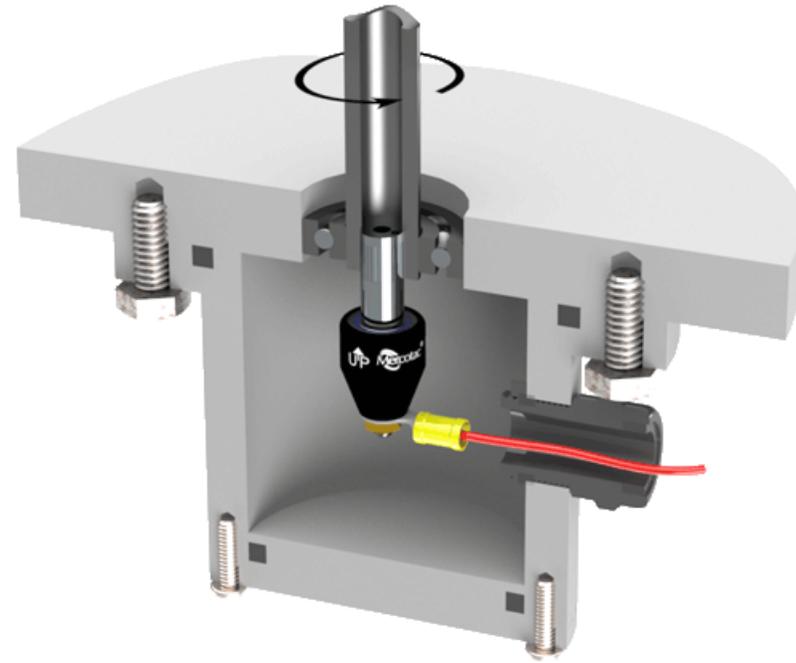
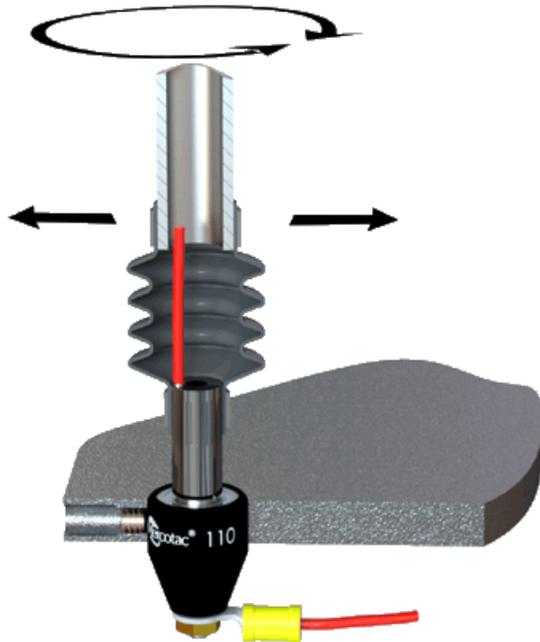
The Mercotac body is electrically hot. An electrically insulated shaft can isolate it, if needed.



Use if electrical and thermal insulation is needed

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 104 & Model 110 Standard Wire Connections



Ring terminal for stationary wire attachment.

Metal receptacle press fits onto rotating member of machine.



Ring terminal for stationary wire attachment.

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

Applications

The Mercotac models 104 & 110 brushless slip rings are a durable electrical connection used to transmit power and signals between rotating and stationary parts. The model 110 is designed for up to 10A applications and offers versatility in various industries, while the model 104 with a 4 amp current rating is used in higher rpm applications. Some of the applications include

- Electroplating: Used for the connection to rotating electrodes
- Grounding: Used for grounding rotating shafts.
- Static charge: Used for applying a static charge to rotating devices

In addition to these applications, these slip rings are suitable for microelectronics, chemical plating process control, wire metal fatigue testing, hay baling moisture sensing, and more. They are also utilized in wind turbines, robotic systems, medical scanning equipment, antennas, motors, generators, pumps, conveyors, elevators, escalators, and numerous other applications. These units



provide reliable connections in demanding conditions, making them a valuable asset in various 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.
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Frequency.
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