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# Mercotac<sup>®</sup>

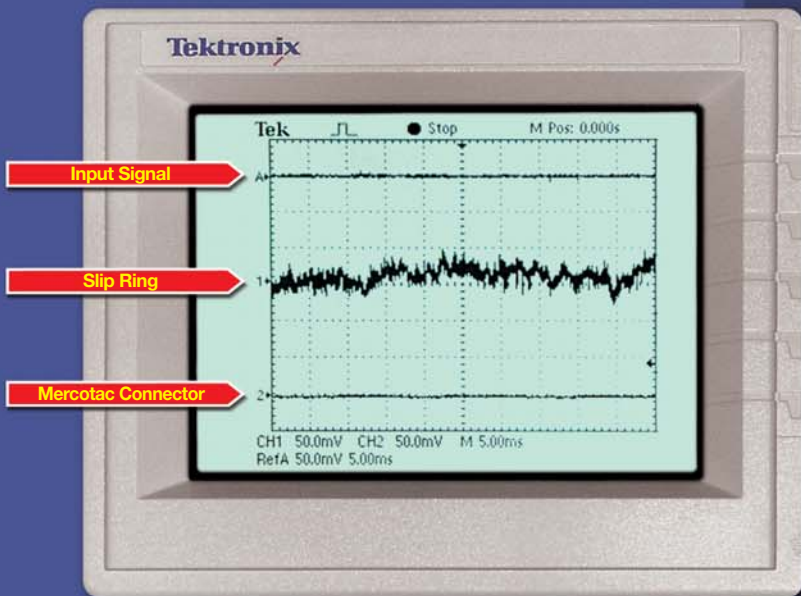
*Superior Connections for a World in Motion*



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# Do you want a superior connection or an ordinary slip ring?

## The choice is yours.



- Superior to Conventional Slip Rings
- Extremely Low Electrical Noise
- Less Than One Milliohm Resistance
- Durable, Compact, Low Cost

**There are many ways you will profit by using Mercotac connectors:**

Slip rings require maintenance and lose signal quality over time due to wear and debris. **Mercotac connectors are maintenance free, do not degrade the signal over time and last much longer than slip rings.**

Slip rings introduce electrical noise into the signal being transmitted. **Mercotac connectors transmit with near zero electrical noise, thus the same connector can be used for power and signal transmission.**

Slip rings typically last several million revolutions. **Mercotac connectors typically last hundreds of millions of revolutions. In many applications they can last over a billion revolutions.**

Though superior in performance and durability, **Mercotac connectors cost less than slip rings** of comparable capacity.

The above **superior performance is possible** because of the unique design feature of Mercotac connectors: the electrical conduction path is a liquid metal that is molecularly bonded to the contacts. This creates a connection that is constant and unchanged for the life of the connector.

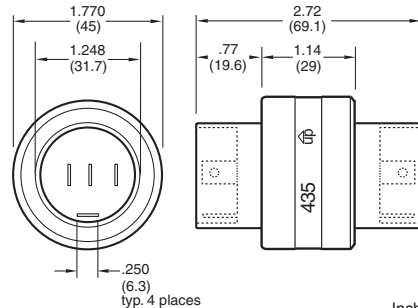


**Rotating Electrical Connectors**  
*Superior Connections for a World in Motion*

# 4, 6 & 8 CONDUCTORS

## Model 435

MODEL NO.	CONDUCTORS	DESCRIPTION	VOLTAGE AC/DC	AMP RATING AT 500 VAC	MAX FREQ. MHz	CONTACT RESISTANCE	MAX OP. RPM	TEMPERATURE Max. F (C) / Min. F (C)	ROTATION Torque (gm-cm)	CIRCUIT SEPARATION
435	4	High Voltage Model	0-500	30	100	<1m?	300	140(60)/-20(-29)	850	>50M?
435-SS	4	High Voltage Stainless Steel Bearing	0-500	30	100	<1m?	300	140(60)/-20(-29)	850	>50M?



Inch  
(mm)

## Accessories



**55250**  
Terminal 16-14 AWG  
(qty. 4 included)



**55251**  
Terminal 16-14 AWG  
(qty. 4 included)



**57435**  
Boot Kit  
For dust and splash  
protection  
IP51

Terminals for other wire gauges available.



### MOUNTING

- Mercotac connectors may be used in any position between vertical and 90 horizontal. The UP arrow should not point below horizontal.
- The models 110, 110-T, 205, and 305 Mercotacs use the knurled receptacle inserted into the rotating member for mounting. This receptacle holds the Mercotac connector.
- Larger Mercotac connectors use either the body or the plastic collar for mounting to the rotating member.
- In horizontal applications, mount the connector with the body rotating to reduce mechanical loads on the bearing.
- Limit mounting eccentricity to a maximum of .005" TIR.
- Mercotac connectors are not designed to carry mechanical loads. One end should be allowed to float, attached only by the connecting wires.

### CONNECTION

- Use stranded wires of ample length and flexibility for the Mercotac connection in order to avoid mechanical loads.
- Terminal Accessories are push-on quick disconnects which crimp onto the connecting wires and push onto the Mercotac connector tabs.
- Do not solder wires to the connector or bend tabs as such misuse will cause connector failure and void the warranty.
- Provide overload protection to the electrical circuit containing the Mercotac connector.
- If wire wrapping occurs from too much connector torque, it is suggested to use a torque arm positioned to float against a fixed stop.

### TEMPERATURE

- Provide thermal insulation where necessary to prevent the Mercotac temperature from exceeding 140F (60C). Mercotac connectors contain plastic materials which are sensitive to heat.
- Overheating will cause connector failure and voids the warranty.

### VIBRATION/ SHOCK

- Vibration or mechanical shock will reduce connector life or cause failure.
- If vibration or shock is present, we suggest a flexible isolating mounting.

### FOOD APPLICATIONS

- Mercotac connectors are factory sealed but do contain mercury and other fluids.
- As a precaution, a protective housing is suggested to isolate the rotating connector from the food product.

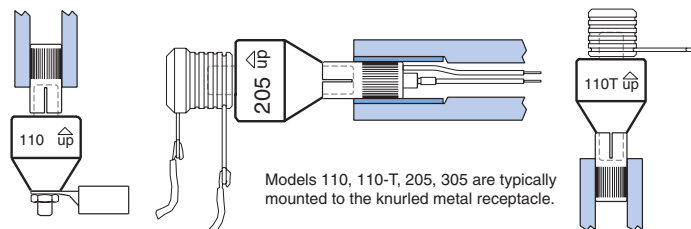
### BOOT KIT

- The boot kit is not watertight or intended for waterproofing but is designed to give protection to the wire terminals from splashing water or dust. The protection rating is IP51.

### RECYCLING

Mercotac connectors contain mercury and should not be disposed of in the trash but only through mercury recycling programs. Mercotac Inc. offers a mercury recycling service for this purpose. Ship spent connectors to our Carlsbad facility by UPS ground enclosed in a plastic bag. Include paperwork stating, "for recycling" with your company name, phone and fax numbers. Do not send through the US mail.

### Suggested Mounting Methods



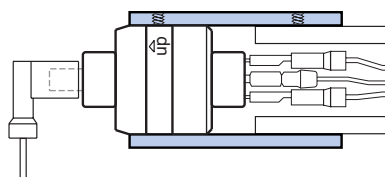
Models 110, 110-T, 205, 305 are typically mounted to the knurled metal receptacle.

#### Receptacle Mount Hole Dimensions

MODEL	HOLE DIAMETER Ø	DEPTH
591, 592, 5920, 594	.283" (7.19)	.35" (8.89)
593	.408" (10.36)	.35" (8.89)

Inch (mm) Tolerances Ø +.001" (+.025")  
-.000 (-.000)

### Typical Body Mount

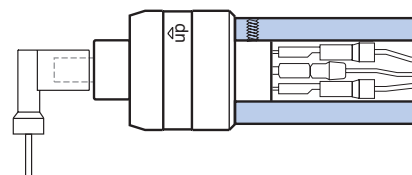


#### Body Mount Hole Dimensions

MODEL	HOLE DIAMETER Ø	DEPTH*
230, 331	.998" (25.35)	.80" (20)
330, 430, 1250	1.248" (31.70)	.80" (20)
630	1.575" (40.00)	.80" (20)
435, 830	1.772" (45.00)	.80" (20)

Inch (mm) Tolerances Ø +.001" (+.025")  
-.000 (-.000)  
\*Minimum additional depth for disconnects clearance 1.4" (35.5)

### Typical Collar Mount

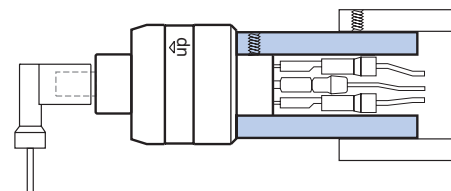


#### Collar Mount Hole Dimensions

MODEL	HOLE DIAMETER Ø	DEPTH*
230, 331	.500" (12.70)	.40" (10)
330, 430	.625" (15.88)	.40" (10)
430 w/plug	.625" (15.88)	1.40" (36)
630	.875" (22.23)	.40" (10)
830	1.125" (28.58)	.40" (10)
435	1.250" (31.75)	.80" (20)
1250 Stud	3/8"-16 UNC	.81" (20.5)
1250-M Stud	10X1.5 metric	.81" (20.5)

Inch (mm) Tolerances Ø +.001" (+.025")  
-.000 (-.000)  
\*Minimum additional depth for disconnects clearance 1.4" (35.5)

### Insulating Collar Mount



Mounting with an insulating collar may be required to insulate connector from conducted heat. Soft-mounting with rubber type material is needed if unit will be subjected to vibration.