

# MODULAR SERVICE INSTRUCTIONS

Mercotac® brushless slip rings contain a small amount of liquid mercury and must be disposed of properly through recycling. Mercotac, Inc. offers a no cost recycling service for this purpose. Do not dispose of them in the trash. Ship spent units to Mercotac Inc. in a sealed plastic bag and package items for UPS Ground shipment. Please state on paperwork "For Recycling", and identify shipments with company name and Phone / FAX numbers. (Do not send through USPS or by Air, as it is illegal.) Contact Mercotac for shipping information.

1. Mercotac® brushless slip rings can be used both horizontally and vertically. However, the "UP" arrow on the body of the slip ring should not point below horizontal. It is preferable to store units upright (with the arrow up). <Fig 1>

2. The slip ring can be held or mounted by the body or the plastic bushing and was not designed to carry mechanical loads. One end should always float, attached only by the connecting wires. In horizontal applications, mount the slip ring with the body rotating to reduce mechanical loads on the bearing. **Never rigid mount both ends of the slip ring. This will cause slip ring failure.** Limit mounting eccentricity to a maximum of .005" (.13mm) <Fig 2>.

3. The brushless slip ring mounting is reversible so they need not be installed upside down

4. **Do not solder to the slip ring or bend tabs excessively as such misuse will cause slip ring failure and voids the warranty.**

5. Use stranded wires of ample length and flexibility to avoid mechanical loads. Avoid taut wires that pull on the slip ring. The wires should have enough free play to allow the contact end to rotate freely approximately ¼ turn. Wires that allow too much free play could wrap around the slip ring. Generally, wires are strong enough to restrain the stationary end of the slip ring. Use a floating torque arm attached to the stationary bushing if the wires are not adequate. <Fig 3>

6. Provide quick acting current protection (fuse) on the wires attached to the slip ring. Over-current conditions can cause failure of the slip ring. **CAUTION:** The aluminum body may be electrically "hot" after failure. Disable power source before handling a suspected failed slip ring or when working near the slip ring.

7. The push on terminals (right angle & straight) supplied with the modular slip ring series use an improved double wall barrel design vs. typical single wall barrel. The extra strength in the barrel improves electrical conductivity and wire grip. Some crimp tools do not have enough leverage to crimp securely this terminal, which can cause poor connections. The shape of the crimp die also affects the quality of the crimp, especially for the smaller wire sizes. A recommended crimp tool manufactured by Thomas & Betts is their model #WT112M. The right angle terminals are configured on the 830 and 630 models as shown. <Fig 4>

8. Vibration and mechanical shock will reduce the life or cause slip ring failure. Some installations may require a shock isolating mounting, such as rubber tubing. <Fig 5>

9. The brushless slip ring contains plastic materials that are sensitive to heat. Over-heating will cause reduced life or slip ring failure. Provide thermal insulation where necessary to prevent the slip ring temperature from exceeding 140°F (60°C). <Fig 6>

10. **In food and packaging applications:** Mercotac® brushless slip rings contain liquid mercury and other fluids. **Isolate the slip ring from the food processing area by using a protective housing.** Short circuit failure at or in connection with a Mercotac® slip ring may rarely result in leakage. The use of a protective housing is required in these applications. <Fig 7>



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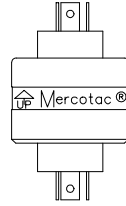


Fig 1

MODEL	BUSHING MOUNTING		BODY MOUNTING	
	A	B	A	B
230				
331	.500(12.7)		.998(25.35)	
330		.40(10.2)		
430	.625(15.87)		1.248(31.70)	
1250	3/8(M10)	.70(17.8)		.80(20.3)
630	.875(22.22)	.40(10.2)	1.575(40.00)	
830	1.125(28.57)	.40(10.2)	1.772(45.01)	

Fig 2 Mounting Dimensions

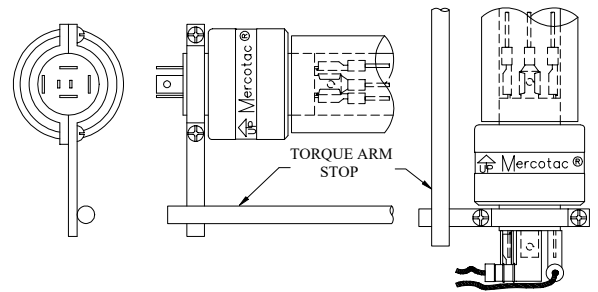
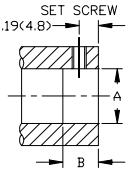


Fig 3 Floating Torque Arm Examples

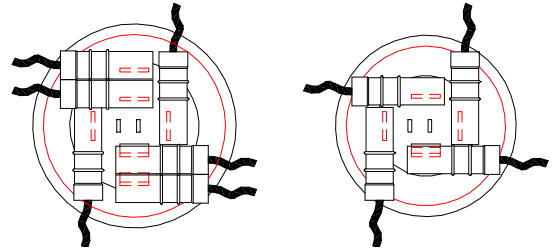


Fig 4 Wire Configuration for Right Angle Terminals

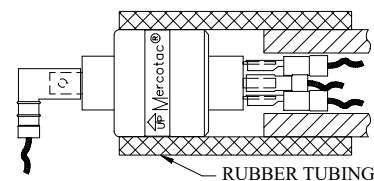


Fig 5 Vibration Isolation

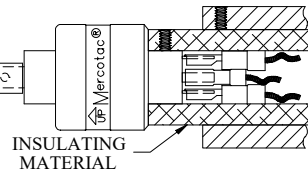


Fig 6 Thermal Insulation

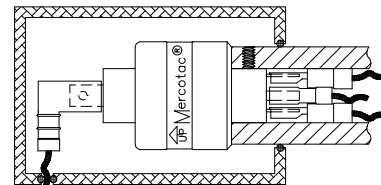
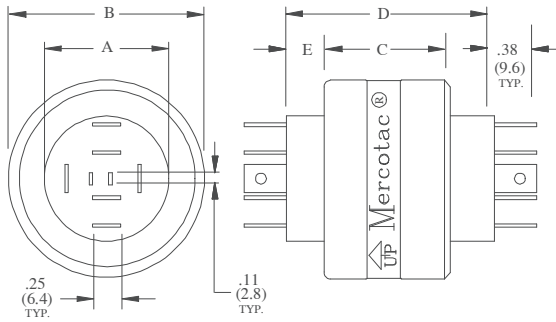


Fig 7 Protective Housing

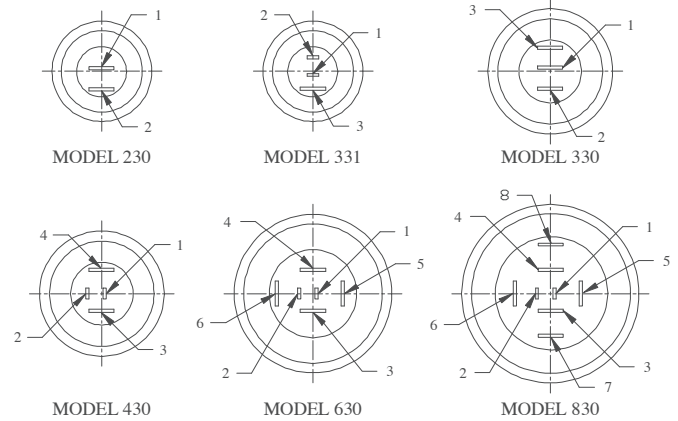
# MODULAR SERIES



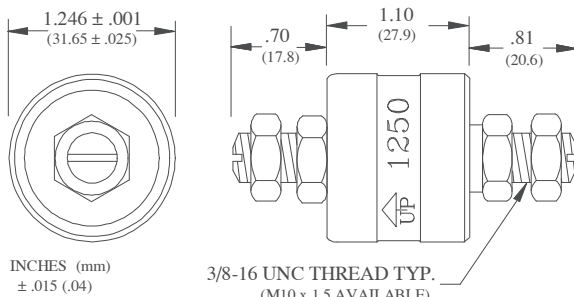
MODEL	A	B	C	D	E
230	.498 (12.65)	.996 (25.30)	1.10 (27.9)	1.82 (46.2)	.34 (8.6)
331					
330	.623 (15.82)	1.246 (31.65)		1.87 (47.5)	.37 (9.4)
430					
630	.873 (22.17)	1.573 (39.95)	1.14 (29.0)	1.84 (46.7)	.34 (8.6)
830	1.123 (28.52)	1.770 (44.96)			
± in (mm)	.002 (.05)		.01 (.25)	REF	.01 (.25)



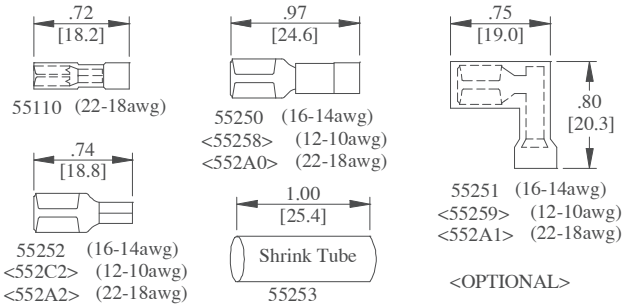
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## CONTACT TAB ORIENTATION



**MODEL 1250**



## AVAILABLE DISCONNECTS

## TECHNICAL SPECIFICATIONS

MODEL NUMBER:	1250	230	330	331	430	630	830
CONDUCTORS	1	2	3	3	4	6	8
VOLTAGE RANGE (V) AC/DC	0 - 250						
CURRENT RATING (A) SMALL TABS	2 SMALL TABS @ 4						
CURRENT RATING (A) LARGE TABS	250	2@30	3@30	1@30	2@30	4@30	6@30
MAXIMUM FREQUENCY RESPONSE (MHz)	200			100			
MERCURY CONTACT RESISTANCE	< 1 milliohm						
MAXIMUM ROTATING SPEED (RPM)	1200	1800	1200	1800	1200	300	200
MAXIMUM BODY TEMPERATURE °C (°F)	60 (140)						
MINIMUM OPERATING TEMP. °C (°F)	-29 (-20)						
CIRCUIT SEPARATION (megOhm)	> 25						
TYP. ROTATION TORQUE NmX10-4 (gm·cm)	250	200	300	200	400	700	1000

## ACCESSORIES

SMALL TERM., INS. (18-22awg)	55110				STD (4)		
LARGE TERM., INS. (18-22awg)	552A0				OPTIONAL		
LARGE TERM., INS. (14-16awg)	55250	(2)	OPT.*	(1)	(2)	OPTIONAL*	
LARGE TERM., INS. (10-12awg)	55258				OPTIONAL*		
LARGE TERM., UNINS. (18-22awg)	552A2				OPTIONAL		
LARGE TERM., UNINS. (14-16awg)	55252	OPT.	(3)		OPTIONAL	(4)	(6)
LARGE TERM., UNINS. (10-12awg)	552C2				OPTIONAL		
SHRINK TUBE FOR UNINS. DISC.	55253	OPT.	(3)		OPTIONAL	(4)	(6)
LG. ANGLE TERM., INS. (18-22awg)	552A1				OPTIONAL		
LG. ANGLE TERM., INS. (14-16awg)	55251	(2)	(3)	(1)	(2)	(4)	(6)
LG. ANGLE TERM., INS. (10-12awg)	55259						
HEX NUT, 3/8-16 BRASS	12580	(4)					
RUBBER BOOT KIT FOR PROTECTION:	57125	57230	57430	57230	57430	57630	57830

\* Note: These optional terminals may require additional clearance and slight bending of tabs.

WARRANTY: Units are guaranteed for one year from date of purchase against defective materials and workmanship. Replacement will be made except for defects caused by abnormal use or mishandling. All statements and technical information contained herein, or presented by the manufacturer or his representative are rendered in good faith. User must assume responsibility to determine suitability of the product for intended use. The manufacturer shall not be liable for any injury, loss or damage, direct or consequential arising out of the use, or attempt to use the product. 02/10