

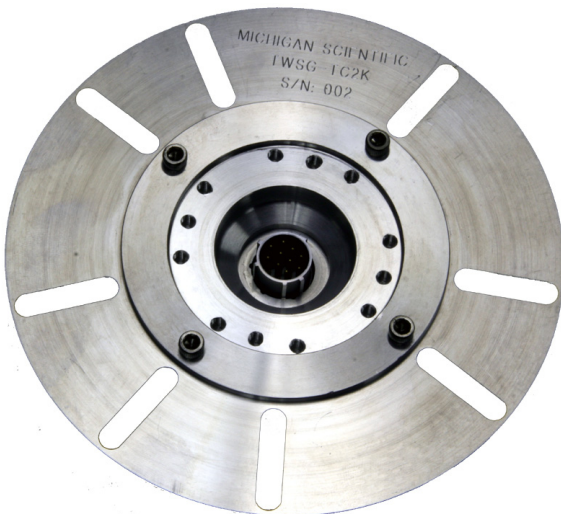
Wheel Instrumentation Package (WIP) Model Numbering Information

How to build a Model number

<u>Options</u>	<u>Code</u>	<u>XXXX - XXX - XXXX</u>
6" Diameter WIP	WIP6	----- ----- -----
8" Diameter WIP	WIP8	
Full bridge pass thru Strain amplifier	(blank) SG	----- ----- -----
Dual range strain amp	SGD	
no TC's	(blank)	----- ----- -----
1 channel * type pass thru	1*	
2 channel * type pass thru	2*	
1 amplifier * type	TC1*	
2 amplifier * type	TC2*	

Note: * Designates the type of Thermocouple (J, K, E, T).

Note: Non-amplified TC's are not available with a dual range strain gage amplifier.



6" Wheel Instrumentation Package



WIP6-SG-TC2K with SR10AW/T512/AX2 slip ring

PART NUMBERING FOR END OF SHAFT SLIP RING ASSEMBLIES

S-series; End of shaft units with a 1.625 inch diameter rotor. Includes models S4 through S10, S4S, S10S, S4CF, short S4/X, short S8/X. Most these small units have solder terminals for connecting lead wires.

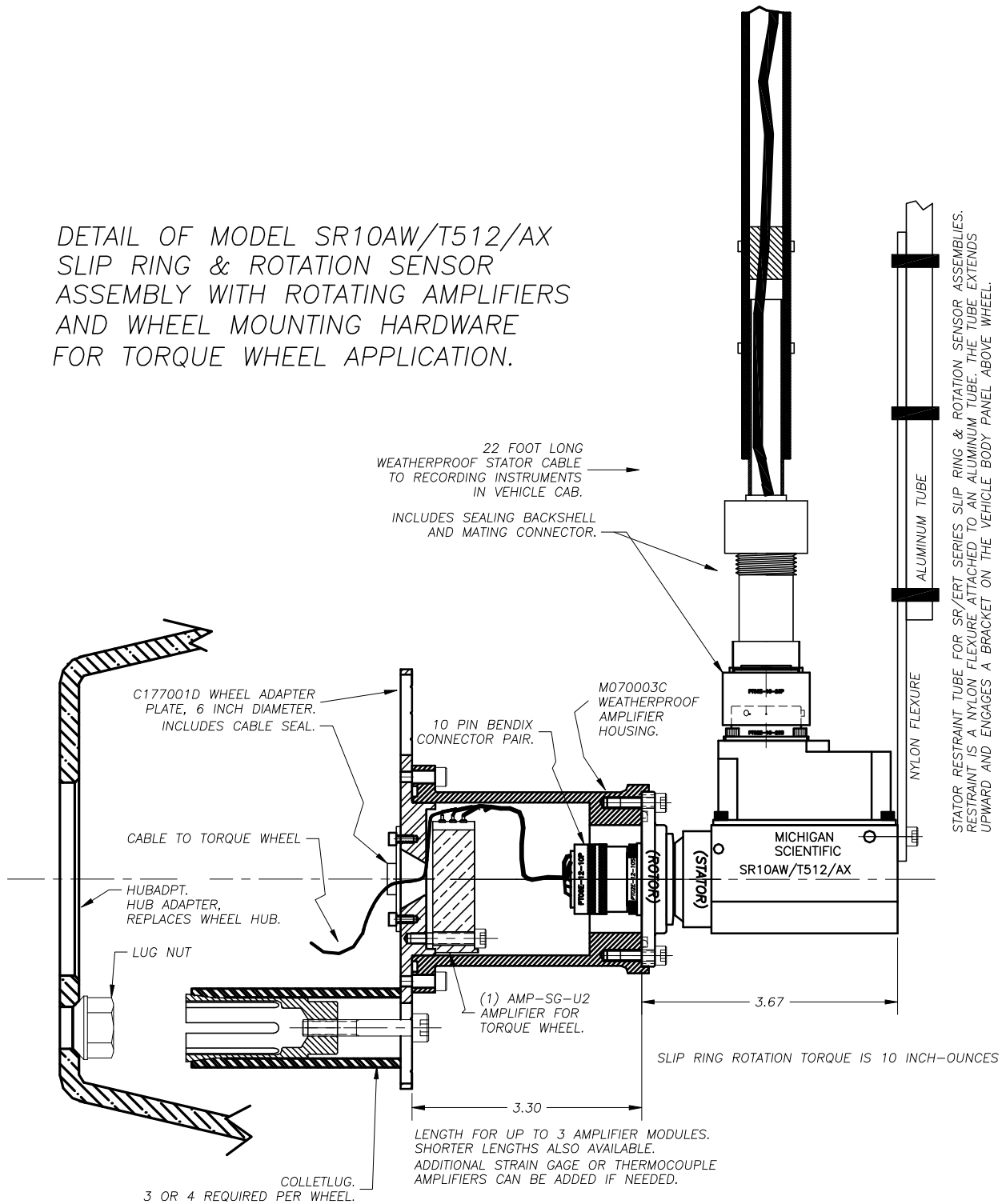
SR-series; All end of shaft units with a 2 inch diameter or larger rotor. Includes: SR, SR/PE, SR/E60, and SR/ERT series. These units have the most choices of solder terminals, connectors, rotor diameter. weatherproof seals. and speed +/- or position sensors.

Specifying the options is illustrated with a typical part number:

SR 36 A W /R 360 /A X _____
1 2 3 4 5 6 7 8 9

1 . S or SR designates and applies to all end of shaft slip rings
2 . Number of slip rings
3 . Rotor diameter options () leave blank for 1.625 inch diam., (1.625/1.624) M 2.0 inch diam., (1.9995/1.9985) A 2.5 inch dia., (2.500/2.498) G 2.9 inch dia., (2.900/2.899) Y 3.0 inch dia., (2.999/2.998)
4 . Weatherproof options W contacting rotary seals (2000 rpm maximum) B noncontacting labyrinth seals () leave blank to omit the extra rotary seals
5 . Speed +/- or angular position sensor options E incremental optical encoder PE precision incremental optical encoder R resolver T tachometer circuit () leave blank to omit rotation sensor
6 . Resolution
7 . Rotor connection options () leave blank for solder terminals on the front face of the rotor flange A axially mounted circular connector on the back of the rotor flange R radially mounted circular connector T solder terminals on the back of the rotor flange
8 . Stator connection options () leave blank for solder terminals X circular connector on the side of the stator housing (Note: An alternative way of adding a stator connector is to use a rubber boot or metal cap accessory)
9 . Special modifications

DETAIL OF MODEL SR10AW/T512/AX
SLIP RING & ROTATION SENSOR
ASSEMBLY WITH ROTATING AMPLIFIERS
AND WHEEL MOUNTING HARDWARE
FOR TORQUE WHEEL APPLICATION.



10ERT+AMPS+PLATE.DWG

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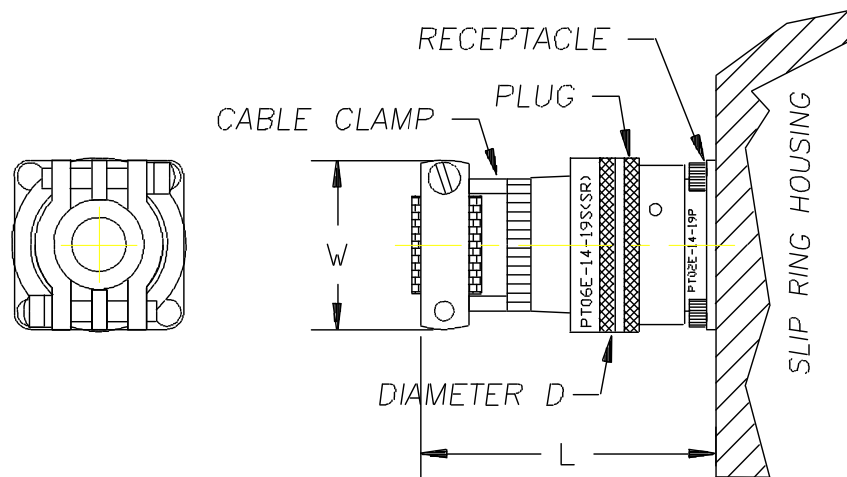
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CIRCULAR CONNECTOR OPTIONS

Michigan Scientific stocks slip ring assemblies with solder terminals. For most applications solder terminals are the first choice for connecting lead wires to the slip ring assembly. Solder terminals are small, easy to use, and very reliable.

However, in some applications circular connectors are preferred. Connectors provide a quick disconnect, are rugged, and are easily weatherproofed. Connector choices are described on pages 4 through 6.

The connector industry has standard shell sizes. For slip ring assemblies with up to 20 rings we usually recommend the Bendix PT series connectors. Above 20 rings use the Bendix JT series.



Connector Series	Shell Size	S max	D max	W max	L
Bendix PT & PC	8	0.812	0.751	0.812	1.9
	10	0.938	0.859	0.875	1.9
	12	1.031	1.031	1.001	1.9
	14	1.125	1.156	1.125	1.9
	16	1.219	1.281	1.188	2.1
	18	1.312	1.391	1.438	2.2
	20	1.438	1.531	1.438	2.2
Bendix JT	10	0.954	0.844	0.875	1.7
	12	1.047	1.016	1.001	1.7
	14	1.141	1.141	1.125	1.9
	16	1.219	1.265	1.188	1.9
	18	1.312	1.391	1.438	2.0

Technical Note No. 107

SEALING BACKSHELLS

The Bendix PT and JT series connectors we stock are environmentally sealed at the mating face. However the rear of the plug where the lead wires exit requires additional sealing to make the connector completely weatherproof.

Dow Corning 3145 RTV silicone sealant (an electrical grade) can be used, but environmental sealing backshells that seal around impervious jacketed cable or a thin wall tube are more reliable and easier to rework. In applications where the slip ring is on an automotive wheel the tube can engage a bracket at the top of the wheel well to prevent the slip ring stator housing from rotating.

The backshells do require more space. The sealing backshell replaces the cable clamp on the plug connector. The backshell adds 1.5" max. to the overall length. The backshell clamp width is 0.6" to 1.0" larger than the cable diameter.

Either method applied correctly allows temporary immersion capability from -40F to +250F.

Backshell part numbers are constructed as follows: Backshell number: 370(1.)S004B(2.)(3.)C3

1. Connector series

- D Bendix PT and Bendix PC
- F Bendix JT
- J Amphenol 348 (obsolete)

2. Shell size

3. Cable diameter range min. max.

03	.031	.219
04	.094	.312
06	.250	.438
08	.312	.531
10	.375	.625
12	.500	.750
16	.594	.938
20	.938	1.250

We stock a few of the more popular sizes for immediate delivery. Delivery of other sizes is usually 4 to 6 weeks.

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Slip Ring

Stator

Rubber boots and metal caps are offered for adding a tube or connector to cylindrical stator housings that have solder terminals on the end. See the drawings on this page.

Rubber boots or metal caps part number example: **C209 14 4 B** (same as the drawing number)

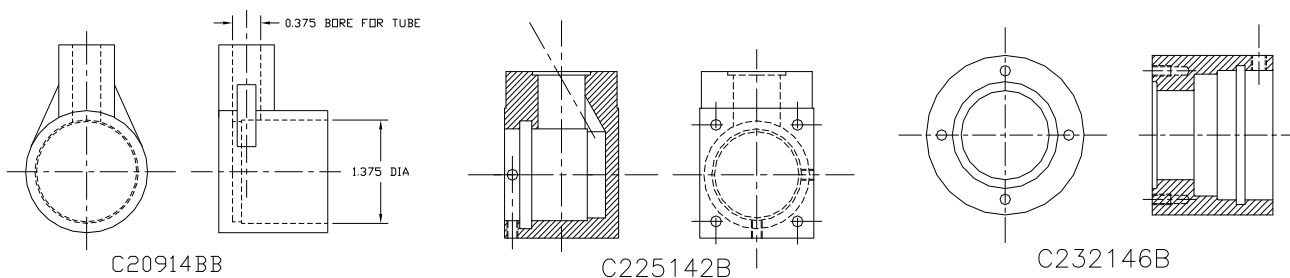
(Drawing size)

Number	Designates
C209	Rubber boot, cable or tube exits radially.
C574	Connector Brackets
C225	Weatherproof metal cap, connector mounted radially
C232	Metal cap, connector mounted axially.

Exit Code	Cables or Tube O.D.	Bendix Connector Shell Size	Bendix PT Solder, max contacts	Bendix JT Crimp. Max contacts
A	5/16"			
B	3/8"			
C	1/2"			
8		8	4	6
0		10	6	13
2		12	10	22
4		14	19	37
6		16	26	55

Stator Diameter Code	Fits Slip Ring Stator Diameter	Slip Ring Models
12	1.230"	S Series
14	1.375"	SR10AW/E60, etc
19	1.900"	SR10AW/E500-1(serial #1-28)
22	2.180"	SR PE Series

Rubber Boots	
Part Numbers	Use For
C20912(A, B, or C)B	S-series, tubes
C20914(A, B, or C)B	1.375" dia. Stators, tubes
C20915(A, B, or C)B	1.441" dia. Stators, tubes
C20919(2 or 4)B	1.900" dia. Stators, connectors
C20922(2 or 4)B	2.180" dia. Stators, connectors
Connector Brackets	
Part Numbers	Use For
C57412(8, 0, or 2)B	S4, S6, S10, SR6M, SR8M
C57414 (4 or 6)	SR10M, SR10M/E60, SR20M
C574154B	SR10M/EL
C574156B	SR20M/EL
C524224B	SR PE Series
Metal Caps	
Part Numbers	Use For
C22514(0, 2, or 4)B	1.375" dia. Stators mounted radially
C232212(6 or 8)B	1.230" dia. Stators mounted axially. Includes 50% receptacle and dielectric
C232146B	1.375" dia. Stators mounted axially



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