Model Number 4104-03A	RO	TARY TRANS	FORME	R TORQUE SENSOR		Revision: F ECN #: 52623	
Performance	ENGLISH	SI			AL VERSIONS	ECH #: SEGES	
Measurement Range(Full Scale Capacity)	2,000 in-lb	226 Nm	[1]	Optional versions have identical specifications a	nd accessories as listed for the	e standard model exce	
Sensitivity(output at rated capacity)	2.5 mV/V	2.5 mV/V	[1]	where noted below. More	e than one option may be used	d.	
Non-Linearity	≤ 0.05 % FS	≤ 0.05 % FS	[1][2]				
Hysteresis	≤ 0.05 % FS ≤ 0.05 % FS		[2]				
	≤ 0.03 % FS ≤ 0.02 % FS	≤ 0.05 % FS	[2]				
Non-Repeatability	≤ 0.02 % FS	≤ 0.02 % FS	[2]				
Environmental	2 000 :	240.01					
Overload Limit	3,000 in-lb	340 Nm					
Temperature Range(Operating)	-65 to 170 °F	-54 to 77 °C					
Temperature Range(Compensated)	+70 to +170 °F	+21 to 77 °C	(2)				
Temperature Effect on Output(Maximum)	± .002 %Reading/°F	± .0036 %Reading/°C	[3]				
Temperature Effect on Zero	± .002 %FS/°F	± .0036 %FS/°C	[3][2]				
Balance(Maximum)							
Electrical							
Excitation Frequency	3.28 kHz	3.28 kHz					
Bridge Resistance	350 Ohm	350 Ohm	[1]				
Excitation Voltage	2 to 10 VAC rms	2 to 10 VAC rms	[4]				
Bridge Current(at 5 VAC)	50 mA	50 mA					
Insulation Resistance	> 5,000 MOhm	> 5,000 MOhm					
Zero Balance	≤ 2 % FS	≤ 2 % FS	[2]				
Physical							
Size (Shaft Length x Housing Length x	10.00 in x 6.00 in x 4.00 in	254.0 mm x 152.4 mm x 10	1.6[5]				
Housing Height)		mm					
Weight	18 lb	8.2 kg					
Mounting	1.00 in Dia. Keyed Shaft	25.4 mm Dia. Keyed Shaf	t				
Sensing Element	Strain Gage	Strain Gage					
Housing Material	Black Oxided Steel	Black Oxided Steel					
Shaft Material	Steel	Steel					
Electrical Connector	MS3102A-14S-5P	MS3102A-14S-5P					
Torsional Stiffness	150 kin-lb/radian	16.9 kN-m/radian					
Rotating Inertia	0.0026 in-lb-sec ²	0.0003 N-m-sec ²					
Maximum Speed	15,000 RPM	15,000 RPM					
				NOTES: [1]Nominal. [2]FS - Full Scale. [3]Over compensated operating temperature range. [4]Recommended 10 VAC RMS. [5]See Outline Drawing 28581 for Complete Dimensions [6]See PCB Declaration of Conformance PS062 for details.			
					Model 180-019A 5-socket mating connector for Series 3100, 4100, 4200 torque sensors		
				Model 8113-105A Relay activated precision shu	it calibration module		
				Entered: ND Engineer: PE Sales: E		Spec Number:	
				Date: 06/09/2022 Date: 06/09/2022 Date: 0	6/09/2022 Date: 06/09/202		
All specifications are at room temperature u				PCB LOAD & TORQUE A RCB RIEZOTRONICS DIV.	Hills, MI 48335		
In the interest of constant product improven	nent, we reserve the right to c	hange specifications without	notice.		UNITED STATES Phone: 866-684-7107 E-Mail: LTSales@pcb.c	om	

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