

Model Number 4107-02A	ROTARY TRANSFORMER TORQUE SENSOR			Revision B ECN #: 36946										
Performance	ENGLISH	SI		Optional Versions (Optional versions have identical specifications and accessories as listed for standard model except where noted below. More than one option maybe used.)										
Measurement Range (Full Scale Capacity)	50000 in-lb	5650 Nm	[1]	Notes [1] Nominal. [2] Recommended 10 VAC RMS. [3] FS - Full Scale. [4] Over compensated operating temperature range. [5] See Outline Drawing 25894 for Complete Dimensions [6] See PCB Declaration of Conformance PS062 for details.										
Sensitivity (±15 %) (output at rated capacity)	2.0 mV/V	2.0 mV/V	[1][3]											
Non-Linearity	≤0.05 % FS	≤0.05 % FS	[3]											
Hysteresis	≤0.05 % FS	≤0.05 % FS	[3]											
Non-Repeatability	≤0.02 % FS	≤0.02 % FS	[3]											
Environmental														
Overload Limit	150000 in-lb	16900 Nm		Supplied Accessories 180-019A 5-socket mating connector for Series 3100, 4100, 4200 torque sensors () 8113-105A Relay activated precision shunt calibration module ()										
Temperature Range (Operating)	-65 to 170 °F	-54 to 77 °C												
Temperature Range (Compensated)	+70 to +170 °F	+21 to 77 °C												
Temperature Effect on Output (Maximum)	±0.001 %Reading/°F	±0.0018 %Reading/°C	[4]											
Temperature Effect on Zero Balance (Maximum)	±0.001 %FS/°F	±0.0018 %FS/°C	[3][4]											
Electrical														
Bridge Resistance	350 Ohm	350 Ohm	[1]											
Excitation Frequency	3.28 kHz	3.28 kHz												
Excitation Voltage (Recommended)	2 to 10 VAC rms	2 to 10 VAC rms	[2]											
Insulation Resistance	>5000 MOhm	>5000 MOhm												
Zero Balance	≤1 % FS	≤1 % FS	[3]											
Bridge Current (at 5 VAC)	50 mA	50 mA												
Physical														
Size (Shaft Length x Housing Length x Housing Height)	19.00 in x 8.75 in x 6.50 in	482.6 mm x 222.3 mm x 165.1 mm	[5]											
Weight	80 lb	36.3 Kg												
Mounting	3.00 in Dia. Keyed Shaft	76.2 mm Dia. Keyed Shaft												
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	20000 in-lb/radian	2300000 N-m/radian												
Rotating Inertia	0.152 in-lb/sec ²	0.017 N-m/sec ²												
Maximum Speed	6000 RPM	6000 RPM												
 All specifications are at room temperature unless otherwise specified. In the interest of constant product improvement, we reserve the right to change specifications without notice. ICP® is a registered trademark of PCB group, Inc.														
 Company: PCB Load & Torque, Inc. Address: 24350 Indoplex Circle Farmington Hills, MI 48335 UNITED STATES Phone: 866-684-7107 Fax: 716-684-0987 E-mail: ltinfo@pcbloadtorque.com Web site: http://www.pcbloadtorque.com														
<table border="1"> <tr> <td>Entered: DMW</td><td>Engineer: PE</td><td>Sales: RR</td><td>Approved: JC</td><td>Spec Number:</td></tr> <tr> <td>Date: 12/14/2011</td><td>Date: 12/14/2011</td><td>Date: 12/14/2011</td><td>Date: 12/14/2011</td><td>25222</td></tr> </table>					Entered: DMW	Engineer: PE	Sales: RR	Approved: JC	Spec Number:	Date: 12/14/2011	Date: 12/14/2011	Date: 12/14/2011	Date: 12/14/2011	25222
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Performance		ENGLISH		SI	Optional Versions (Optional versions have identical specifications and accessories as listed for standard model except where noted below. More than one option maybe used.)	
Measurement Range (Full Scale Capacity)		100000 in-lb		11300 Nm	[1]	
Sensitivity (±15 %) (output at rated capacity)		2.0 mV/V		2.0 mV/V	[1][3]	
Non-Linearity		≤0.05 % FS		≤0.05 % FS	[3]	
Hysteresis		≤0.05 % FS		≤0.05 % FS	[3]	
Non-Repeatability		≤0.02 % FS		≤0.02 % FS	[3]	
Environmental					Notes	
Overload Limit		150000 in-lb		16900 Nm	[1] Nominal.	
Temperature Range (Operating)		-65 to 170 °F		-54 to 77 °C	[2] Recommended 10 VAC RMS.	
Temperature Range (Compensated)		+70 to +170 °F		+21 to 77 °C	[3] FS - Full Scale.	
Temperature Effect on Output (Maximum)		±0.001		±0.0018 %Reading/°C	[4] Over compensated operating temperature range.	
		%Reading/°F			[5] See Outline Drawing 25894 for Complete Dimensions	
Temperature Effect on Zero Balance (Maximum)		±0.001 %FS/°F		±0.0018 %FS/°C	[6] See PCB Declaration of Conformance PS062 for details.	
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Electrical					Supplied Accessories	
Bridge Resistance		350 Ohm		350 Ohm	180-019A 5-socket mating connector for Series 3100, 4100, 4200 torque sensors ()	
Excitation Frequency		3.28 kHz		3.28 kHz	8113-105A Relay activated precision shunt calibration module ()	
Excitation Voltage (Recommended)		2 to 10 VAC rms		2 to 10 VAC rms		
Insulation Resistance		>5000 MOhm		>5000 MOhm		
Zero Balance		≤1 % FS		≤1 % FS		
Bridge Current (at 5 VAC)		50 mA		50 mA		
Physical						
Size (Shaft Length x Housing Length x Housing Height)		19.00 in x 8.75 in x 6.50 in		482.6 mm x 222.3 mm x 165.1 mm	[5]	
Weight		80 lb		36.3 Kg		
Mounting		3.00 in Dia. Keyed Shaft		76.2 mm Dia. Keyed Shaft		
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		20000 kin-lb/radian		2300000 N-m/radian		
Rotating Inertia		0.152 in-lb/sec2		0.017 N-m/sec2		
Maximum Speed		6000 RPM		6000 RPM		
						
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