

Model Number 4105-01A		ROTARY TRANSFORMER TORQUE SENSOR			Revision E ECN #: 36946	
Performance		ENGLISH		SI		
Measurement Range (Full Scale Capacity)		2000 in-lb		226 Nm		
Sensitivity (output at rated capacity)		2.5 mV/V		2.5 mV/V		
Non-Linearity		≤0.05 % FS		≤0.05 % FS		
Hysteresis		≤0.05 % FS		≤0.05 % FS		
Non-Repeatability		≤0.02 % FS		≤0.02 % FS		
Environmental						
Overload Limit		6000 in-lb		675 Nm		
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		
Temperature Effect on Zero Balance (Maximum)		±0.001 %FS/°F		±0.0018 %FS/°C		
Electrical						
Bridge Resistance		350 Ohm		350 Ohm		
Excitation Frequency		3.28 kHz		3.28 kHz		
Excitation Voltage		2 to 10 VAC rms		2 to 10 VAC rms		
Insulation Resistance		>5000 MOhm		>5000 MOhm		
Zero Balance		≤2 % FS		≤2 % FS		
Bridge Current (at 5 VAC)		50 mA		50 mA		
Physical						
Size (Shaft Length x Housing Length x Housing Height)		12.75 in x 7.25 in x 4.75 in		323.9 mm x 184.2 mm x 120.7 mm		
Weight		30 lb		13.6 Kg		
Mounting		1.50 in Dia. Keyed Shaft		38.1 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		700 kin-lb/radian		79.1 kN-m/radian		
Rotating Inertia		0.0084 in-lb-sec ²		0.001 N-m-sec ²		
Maximum Speed		12000 RPM		12000 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.						
Entered: DMW		Engineer: PE		Sales: RR		
Date: 12/14/2011		Date: 12/14/2011		Date: 12/14/2011		
Approved: JC		Spec Number: 19829				
		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				

Model Number 4105-02A		ROTARY TRANSFORMER TORQUE SENSOR			Revision E ECN #: 36946	
Performance		ENGLISH		SI		
Measurement Range (Full Scale Capacity)		5000 in-lb		565 Nm		
Sensitivity (output at rated capacity)		2.5 mV/V		2.5 mV/V		
Non-Linearity		≤0.05 % FS		≤0.05 % FS		
Hysteresis		≤0.05 % FS		≤0.05 % FS		
Non-Repeatability		≤0.02 % FS		≤0.02 % FS		
Environmental						
Overload Limit		15000 in-lb		1700 Nm		
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		
Temperature Effect on Zero Balance (Maximum)		±0.001 %FS/°F		±0.0018 %FS/°C		
Electrical						
Bridge Resistance		350 Ohm		350 Ohm		
Excitation Frequency		3.28 kHz		3.28 kHz		
Excitation Voltage		2 to 10 VAC rms		2 to 10 VAC rms		
Insulation Resistance		>5000 MOhm		>5000 MOhm		
Zero Balance		≤2 % FS		≤2 % FS		
Bridge Current (at 5 VAC)		50 mA		50 mA		
Physical						
Size (Shaft Length x Housing Length x Housing Height)		12.75 in x 7.25 in x 4.75 in		323.9 mm x 184.2 mm x 120.7 mm		
Weight		28 lb		12.7 Kg		
Mounting		1.50 in Dia. Keyed Shaft		38.1 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		950 kin-lb/radian		107000 N-m/radian		
Rotating Inertia		0.0084 in-lb/sec2		0.001 N-m/sec2		
Maximum Speed		12000 RPM		12000 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.						

Model Number 4105-03A	ROTARY TRANSFORMER TORQUE SENSOR			Revision E 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.) Notes [1] Nominal. [2] Recommended 10 VAC RMS. [3] FS - Full Scale. [4] Over compensated operating temperature range. [5] See Outline Drawing 31121 for Complete Dimensions [6] See PCB Declaration of Conformance PS062 for details. Supplied Accessories 180-019A 5-socket mating connector for Series 3100, 4100, 4200 torque sensors (1) 8113-105A Relay activated precision shunt calibration module (1)
Measurement Range (Full Scale Capacity)	10000 in-lb	1130 Nm	[1]	
Sensitivity (output at rated capacity)	2.5 mV/V	2.5 mV/V	[1][3]	
Non-Linearity	≤0.05 % FS	≤0.05 % FS	[3]	
Hysteresis	≤0.05 % FS	≤0.05 % FS	[3]	Environmental Overload Limit 15000 in-lb 1700 Nm 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 ±0.0018 %Reading/°C [4] Temperature Effect on Zero Balance (Maximum) ±0.001 %FS/°F ±0.0018 %FS/°C [3][4]
Non-Repeatability	≤0.02 % FS	≤0.02 % FS	[3]	
Electrical				
Bridge Resistance	350 Ohm	350 Ohm	[1]	
Excitation Frequency	3.28 kHz	3.28 kHz		Physical Size (Shaft Length x Housing Length x Housing Height) 12.75 in x 7.25 in x 4.75 in 323.9 mm x 184.2 mm x 120.7 mm [5] Weight 28 lb 12.7 Kg Mounting 1.50 in Dia. Keyed Shaft 38.1 mm Dia. Keyed Shaft Sensing Element Strain Gage Housing Material Black Oxided Steel Shaft Material Steel Electrical Connector MS3102A-14S-5P MS3102A-14S-5P Torsional Stiffness 950 kin-lb/radian 107000 N-m/radian Rotating Inertia 0.0084 in-lb/sec2 0.001 N-m/sec2 Maximum Speed 12000 RPM 12000 RPM
Excitation Voltage	2 to 10 VAC rms	2 to 10 VAC rms	[2]	
Insulation Resistance	>5000 MOhm	>5000 MOhm		
Zero Balance	≤2 % FS	≤2 % FS	[3]	
Bridge Current (at 5 VAC)	50 mA	50 mA		
Physical				
Size (Shaft Length x Housing Length x Housing Height)	12.75 in x 7.25 in x 4.75 in	323.9 mm x 184.2 mm x 120.7 mm	[5]	
Weight	28 lb	12.7 Kg		
Mounting	1.50 in Dia. Keyed Shaft	38.1 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	950 kin-lb/radian	107000 N-m/radian		
Rotating Inertia	0.0084 in-lb/sec2	0.001 N-m/sec2		
Maximum Speed	12000 RPM	12000 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.

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	19831



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>