

Model Number
4105-01A

ROTARY TRANSFORMER TORQUE SENSOR

Revision: F
ECN #: 52623

	ENGLISH	SI	
Performance			
Measurement Range(Full Scale Capacity)	5,000 in-lb	565 Nm	[1]
Sensitivity(output at rated capacity)	2.5 mV/V	2.5 mV/V	[1][2]
Non-Linearity	≤ 0.05 % FS	≤ 0.05 % FS	[2]
Hysteresis	≤ 0.05 % FS	≤ 0.05 % FS	[2]
Non-Repeatability	≤ 0.02 % FS	≤ 0.02 % FS	[2]
Environmental			
Overload Limit	6,000 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)	± .002 %Reading/°F	± .0036 %Reading/°C	[3]
Temperature Effect on Zero	± .002 %FS/°F	± .0036 %FS/°C	[3][2]
Balance(Maximum)			
Electrical			
Bridge Resistance	350 Ohm	350 Ohm	[1]
Excitation Frequency	3.28 kHz	3.28 kHz	
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 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	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	12,000 RPM	12,000 RPM	

OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

NOTES:

- [1]Nominal.
- [2]FS - Full Scale.
- [3]Over compensated operating temperature range.
- [4]Recommended 10 VAC RMS.
- [5]See Outline Drawing 31121 for Complete Dimensions
- [6]See PCB Declaration of Conformance PS062 for details.

SUPPLIED ACCESSORIES:

Model 180-019A 5-socket mating connector for Series 3100, 4100, 4200 torque sensors (1)
Model 8113-105A Relay activated precision shunt calibration module (1)



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.

Entered: ND	Engineer: PE	Sales: BS	Approved: JM	Spec Number:
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