Model Number **5302D-03A**	**TORKDISC® ROTARY TORQUE SENSING SYSTEM**	Revision D ECN #: 38172

Performance	**ENGLISH**	**SI**	
Measurement Range (Full Scale Capacity)	1000 in-lb	113 Nm	
Accuracy	±0.10 % FS	±0.10 % FS	[2]
Frequency Range	2 kHz	2000 Hz	[3]
Voltage Output	±10 V	±10 V	
Digital Output	QSPI	QSPI	[4]
Frequency Output	10 kHz ± 5 kHz	10 kHz ± 5 kHz	
Maximum Load (Axial)	250 lb	1.1 kN	[5][6][7]
Maximum Load (Lateral)	250 lb	1.1 kN	[5][6][7]
Maximum Moment	750 in-lb	85 Nm	[5][6][7]
Environmental			
Overload Limit (Bolt Joint Slip)	3300 in-lb	373 Nm	[1]
Overload Limit (Failure)	4000 in-lb	452 Nm	
Overload Limit (Safe)	3000 in-lb	339 Nm	
Temperature Range (Operating)	+32 to +185 °F	0 to +85 °C	
Temperature Range (Compensated)	+70 to +170 °F	+21 to +77 °C	
Temperature Effect on Output (within compensated range)	0.003 %FS/°F	0.0054 %FS/°C	
Temperature Effect on Zero Balance (within compensated range)	0.003 %FS/°F	0.0054 %FS/°C	
Electrical			
Power Required (50 to 60 Hz)	90 to 240 VAC	90 to 240 VAC	
Digital Resolution	16 Bit	16 Bit	
Digital Sample Rate	26000 samples/sec	26000 samples/sec	
Physical			
Maximum Speed	15000 RPM	15000 RPM	
Permissible Axial Float (rotor to stator)	0.25 in	6.4 mm	
Permissible Radial Float (rotor to stator)	0.25 in	6.4 mm	
Rotating Inertia (without adaptors)	0.056 in-lb/sec2	0.006 N-m/sec2	
Torsional Stiffness	2900 kin-lb/radian	327656 N-m/radian	
Torsional Angle (at Full Scale Capacity)	0.020 °	0.020 °	
Housing Material (Sensor)	Anodized Aluminum	Anodized Aluminum	
Weight	3.5 lb	1.6 Kg	

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] Bolt joint slip torque is calculated assuming a coefficient of friction (μ) of 0.1 and that grade 8 socket head cap screws are used and tightened to 30% of yield.
[2] Root sum square of non-linearity, hysteresis, and non repeatability.
[3] Output can be filtered via internal DIP switch (33, 55, 125, 250, 450 Hz).
[4] Request Technical Note FTQ-STN5 regarding digital output signal.
[5] Extraneous load limits reflect the maximum axial load, lateral load, and bending moment that may be applied singularly without electrical or mechanical damage to the sensor.
[6] Where combined extraneous loads are applied, decrease loads proportionally.
[7] Request Application Note AP-1015 regarding the effects of extraneous loads on the torque sensor output.

Supplied Accessories

182-028A Connector (1)
8314-06-24A Cable (1)

CE

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.
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