

Model Number 5302D-03A		TORKDISC® ROTARY TORQUE SENSING SYSTEM			Revision D ECN #: 38172	
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)		1000 in-lb		113 Nm	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.	
Accuracy		±0.10 % FS		±0.10 % FS		
Frequency Range		2 kHz		2000 Hz		
Voltage Output		±10 V		±10 V		
Digital Output		QSPI		QSPI		
Frequency Output		10 kHz ± 5 kHz		10 kHz ± 5 kHz		
Maximum Load (Axial)		250 lb		1.1 kN	Supplied Accessories 182-028A Connector (1) 8314-06-24A Cable (1)	
Maximum Load (Lateral)		250 lb		1.1 kN		
Maximum Moment		750 in-lb		85 Nm		
Environmental						
Overload Limit (Bolt Joint Slip)		3300 in-lb		373 Nm		
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		