

Model Number 5308D-01A	TORKDISC® ROTARY TORQUE SENSING SYSTEM			Revision: D ECN #: 55332
Performance		ENGLISH	SI	OPTIONAL VERSIONS
Measurement Range(Full Scale Capacity)		10,000 in-lb	1,130 Nm	Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.
Filter Type(High Pass)		2-pole Butterworth	2-pole Butterworth	
Filter Type(Low Pass - Anti Alias)		8-pole Elliptical	8-pole Elliptical	
Gain(Channel A)		1-16 dB	1-16 dB	
Gain(Channel B)		0.3-1.3 dB	0.3-1.3 dB	
Voltage Output(channel B - DC coupled)		± 10 V	± 10 V	
Voltage Output(channel A - AC coupled)		± 10 V	± 10 V	
Digital Output		QSPI	QSPI	
Maximum Load(Axial)		1,350 lb	6.0 kN	
Maximum Load(Lateral)		1,650 lb	7.3 kN	
Maximum Moment		5,000 in-lb	565 Nm	
Accuracy		± 0.10 % FS	± 0.10 % FS	
Frequency Range(- 3 dB)		0 to 8,500 Hz	0 to 8,500 Hz	
Environmental				
Overload Limit(Bolt Joint Slip)		35,000 in-lb	3,955 Nm	
Overload Limit(Failure)		40,000 in-lb	4,519 Nm	
Overload Limit(Safe)		30,000 in-lb	3,390 Nm	
Temperature Range(Rotor/Stator - Operating)		+32 to +185 °F	0 to +85 °C	
Temperature Range(Rotor - Compensated)		+70 to +170 °F	+21 to +77 °C	
Temperature Range(Receiver - Operating)		0 to +122 °F	-17.7 to 50 °C	
Temperature Effect on Output(System - within compensated range)		0.002 %FS/°F	0.0036 %FS/°C	
Temperature Effect on Zero		0.002 %FS/°F	0.0036 %FS/°C	
Balance(System - within compensated range)				
Position Sensitivity(180° rotation of sensor)		≤ 0.1 % FS	≤ 0.1 % FS	
Electrical				
Power Required(50 to 60 Hz)		9 to 18 VDC	9 to 18 VDC	
Digital Resolution		16 Bit	16 Bit	
Digital Sample Rate		26,484 samples/sec	26,484 samples/sec	
Analog Resolution(based on ±10 V FSO and 16-bit resolution)		0.31 mV	0.31 mV	
Physical				
Maximum Speed		10,000 RPM	10,000 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)		0.643 lb-ft ²	0.027 kg-m ²	
Dynamic Balance		per ISO G 2.5	per ISO G 2.5	
Torsional Stiffness		33,500 kin-lb/radian	3,785 kN-m/radian	
Torsional Angle(at Full Scale Capacity)		0.017 °	0.017 °	
Housing Material(Sensor)		Steel Alloy	Steel Alloy	
Weight(rotor/sensor)		10 lb	654 kg	
NOTES:				
[1]Selectable High Pass cutoff frequencies of 5, 10, 20, 200 and 500 Hz.				
[2]Selectable Low Pass cutoff frequencies of 10,000, 5000, 2500, 1200, 625 and 313 Hz.				
[3]Request Technical Note FTQ-STN5 regarding digital output signal.				
[4]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.				
[5]Where combined extraneous loads are applied, decrease loads proportionally.				
[6]Root sum square of non-linearity, hysteresis, and non repeatability.				
[7]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 75% of yield.				
[8]Supplied with universal AC power adaptor.				
SUPPLIED ACCESSORIES:				
Model 012AC024AT Cable (1)				
Model 182-028A Connector (1)				
Model M0003978 Power supply (1)				
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