

Model Number 5308D-02A		TORKDISC® ROTARY TORQUE SENSING SYSTEM				Revision: C ECN #: 44198			
Performance		ENGLISH	SI	OPTIONAL VERSIONS					
Measurement Range(Full Scale Capacity)		20,000 in-lb	2260 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.					
Accuracy		± 0.10 % FS	± 0.10 % FS					[3]	
Frequency Range(-3 dB)		0 to 8500 Hz	0 to 8500 Hz						
Filter Type(High Pass)		2-pole	2-pole					[4][5]	
Filter Type(Low Pass - Anti Alias)		Butterworth	Butterworth						
Voltage Output(channel A - AC coupled)		8-pole Elliptical	8-pole Elliptical						
Voltage Output(channel B - DC coupled)		± 10 V	± 10 V						
Gain(Channel A)		± 10 V	± 10 V						
Gain(Channel B)		1-16 dB	1-16 dB						
Digital Output		0.3-1.3 dB	0.3-1.3 dB						
Maximum Load(Axial)		QSPI	QSPI	[6]					
Maximum Load(Lateral)		2700 lb	12.0 kN	[7][8]					
Maximum Moment		3375 lb	15.0 kN	[7][8]					
Environmental		9500 in-lb	1073 Nm	[7][8]					
Overload Limit(Bolt Joint Slip)		35,000 in-lb	3955 Nm	[2]					
Overload Limit(Failure)		80,000 in-lb	9039 Nm						
Overload Limit(Safe)		60,000 in-lb	6779 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 Balance(System - within compensated range)		0.002 %FS/°F	0.0036 %FS/°C						
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	[1]					
Digital Resolution		16 Bit	16 Bit						
Digital Sample Rate		26,484	26,484						
		samples/sec	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)		0.24 in-lb/sec2	0.027 N-m/sec2						
Dynamic Balance		per ISO G 2.5	per ISO G 2.5						
Torsional Stiffness		67,000 kin-lb/radian	7570 kN-m/radian						
		0.017 °	0.017 °						
Torsional Angle(at Full Scale Capacity)		Steel Alloy	Steel Alloy						
Housing Material(Sensor)		10 lb	4.5 kg						
Weight(rotor/sensor)									
									
<i>All specifications are at room temperature unless otherwise specified.</i>									
<i>In the interest of constant product improvement, we reserve the right to change specifications without notice.</i>									
				NOTES:					
				[1]Supplied with universal AC power adaptor.					
				[2]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.					
				[3]Root sum square of non-linearity, hysteresis, and non repeatability.					
				[4]Selectable High Pass cutoff frequencies of 5, 10, 20, 200 and 500 Hz.					
				[5]Selectable Low Pass cutoff frequencies of 10,000, 5000, 2500, 1200, 625 and 313 Hz.					
				[6]Request Technical Note FTQ-STN5 regarding digital output signal.					
				[7]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.					
				[8]Where combined extraneous loads are applied, decrease loads proportionally.					
				SUPPLIED ACCESSORIES:					
				Model 012AC024AT Cable (1)					
				Model 182-028A Connector (1)					
				Model M0003978 Power supply (1)					
Entered: AP		Engineer: JM		Sales: KWW		Approved: JSD		Spec Number:	
Date: 5/13/2015		Date: 5/13/2015		Date: 5/13/2015		Date: 5/13/2015		40578	
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