

Model Number 5308D-03A		TORKDISC® ROTARY TORQUE SENSING SYSTEM				Revision: B ECN #: 44198		
Performance		ENGLISH	SI	OPTIONAL VERSIONS				
Measurement Range(Full Scale Capacity)		30,000 in-lb	3390 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					
		± 10 V	± 10 V					
Voltage Output(channel B - DC coupled)		± 10 V	± 10 V					
Gain(Channel A)		1-16 dB	1-16 dB					
Gain(Channel B)		0.3-1.3 dB	0.3-1.3 dB					
Digital Output		QSPI	QSPI	[6]				
Maximum Load(Axial)		4000 lb	17.8 kN	[7][8]				
Maximum Load(Lateral)		5000 lb	22.2 kN	[7][8]				
Maximum Moment		10,000 in-lb	1130 Nm	[7][8]				
Environmental								
Overload Limit(Bolt Joint Slip)		35,000 in-lb	3955 Nm	[2]				
Overload Limit(Failure)		100,000 in-lb	11,298 Nm					
Overload Limit(Safe)		75,000 in-lb	8474 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/sec ²	0.027 N-m/sec ²					
Dynamic Balance		per ISO G 2.5	per ISO G 2.5					
Torsional Stiffness		10 ⁸ in-lb/radian	11,298					
			N-m/radian					
Torsional Angle(at Full Scale Capacity)		0.017 °	0.017 °					
Housing Material(Sensor)		Steel Alloy	Steel Alloy					
Weight(rotor/sensor)		10 lb	4.5 kg					
								
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.								
				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. [9]See PCB Declaration of Conformance PS069 for details.				
				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	40579	
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