Model Number **5308D-01A**	**TORKDISC® ROTARY TORQUE SENSING SYSTEM**	Revision: C ECN #: 44198

Performance	**ENGLISH**	**SI**	
Measurement Range(Full Scale Capacity)	10,000 in-lb	1130 Nm	
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 Butterworth	2-pole Butterworth	[4][5]
Filter Type(Low Pass - Anti Alias)	8-pole Elliptical	8-pole Elliptical	
Voltage Output(channel A - AC coupled)	± 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)	1350 lb	6.0 kN	[7][8]
Maximum Load(Lateral)	1650 lb	7.3 kN	[7][8]
Maximum Moment	5000 in-lb	565 Nm	[7][8]
Environmental			
Overload Limit(Bolt Joint Slip)	35,000 in-lb	3955 Nm	[2]
Overload Limit(Failure)	40,000 in-lb	4519 Nm	
Overload Limit(Safe)	30,000 in-lb	3390 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 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)	0.24 in-lb/sec2	0.027 N-m/sec2	
Dynamic Balance	per ISO G 2.5	per ISO G 2.5	
Torsional Stiffness	33,500 kin-lb/radian	3785 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	10 lb	

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.

OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

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:
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