



14207S008

Lo-Cog® DC Servo Motor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S _{NL}	rpm (rad/s)	3,211	(336)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	50	(3.5E-01)
Peak Torque (Stall) ²	T _{PK}	oz-in (N-m)	410	(2.9E+00)
Weight	W _M	oz (g)	58	(1630)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	10.0	(7.06E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	7.39	(7.06E-02)
Resistance	R _T	Ω	0.59	
Inductance	L	mH	0.87	
No-Load Current	I _{NL}	A	0.30	
Peak Current (Stall) ²	I _P	A	40.4	
Motor Constant	K _M	oz-in/√W (N-m/√W)	13.1	(9.25E-02)
Friction Torque	T _F	oz-in (N-m)	2.2	(1.6E-02)
Rotor Inertia	J _M	oz-in-s ² (kg-m ²)	6.7E-03	(4.7E-05)
Electrical Time Constant	τ _E	ms	1.50	
Mechanical Time Constant	τ _M	ms	5.5	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.25	(1.7E-05)
Damping Constant	K _D	oz-in/krpm (N-m-s)	127	(8.6E-03)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	311	(155)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	41.0	(4.98)
Thermal Time Constant	τ _{TH}	min	32.3	
Gearbox Data				
Encoder Data				
Channels			3	
Resolution		CPR	500	

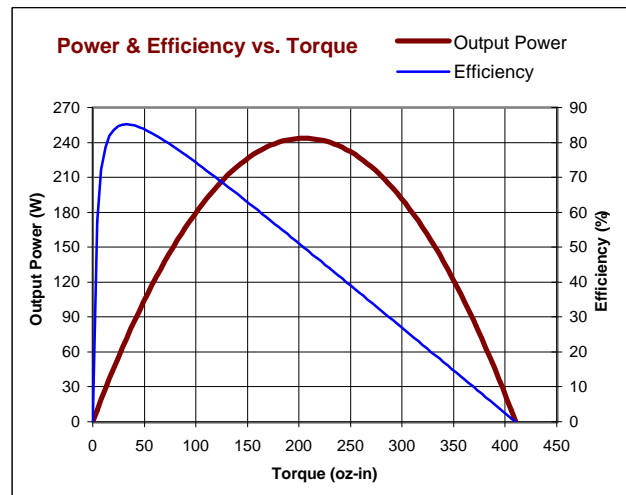
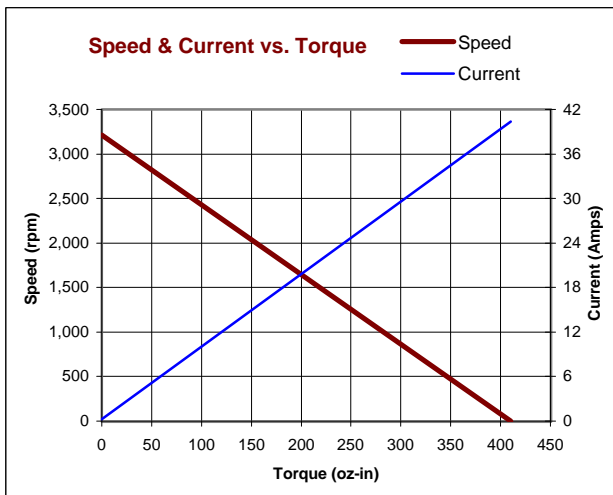
1 - Specified at max. winding temperature at 25°C ambient without heat sink. 2 - Theoretical values supplied for reference only.

Included Features

- 2-Pole Stator
- Ceramic Magnets
- Heavy-Gauge Steel Housing
- 11-Slot Armature
- Silicon Steel Laminations
- Stainless Steel Shaft
- Copper-Graphite Brushes
- Diamond Turned Commutator
- Motor Ball Bearings

Customization Options

- Alternate Winding
- Sleeve or Ball Bearings
- Modified Output Shaft
- Custom Cable Assembly
- Special Brushes
- EMI/RFI Suppression
- Spur or Planetary Gearbox
- Special Lubricant
- Optional Encoder
- Fail-Safe Brake

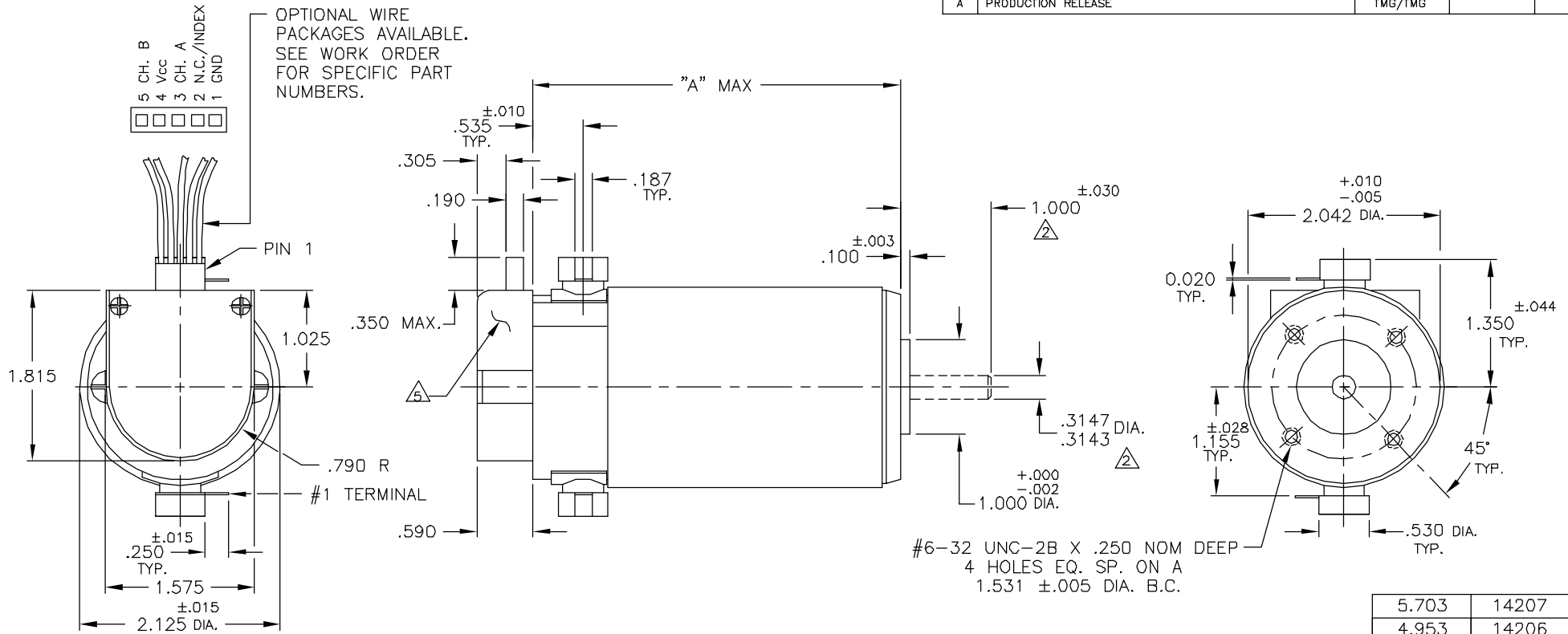


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	TMG/TMG		



NOTES:

1. SHAFT ROTATION IS CW WHILE VIEWING THE MOUNTING END, WITH POSITIVE VOLTAGE (+) APPLIED TO #1 TERMINAL.
2. ALL SHAFT DIMENSIONS NOTED ARE STANDARD (13-767-00□). FOR ALL OTHER SHAFT CONFIGURATIONS, REFER TO DATA SHEET FOR SHAFT PART NUMBERS.
3. BALL BEARINGS: PRELOAD PER P-107
4. MOLEX HOUSING 2695 SERIES WILL ACCEPT MOLEX MATING TERMINALS 2759.
5. ENCLOSED IS A H.P. HEDS-91X0 OPTICAL ENCODER MODULE.

5.703	14207
4.953	14206
4.453	14205
4.078	14204
3.703	14203
3.203	14202
2.953	14201
"A" MAX	MODEL NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		FILE: 150\717		 <small>a PennEngineering Company</small> <small>348 Goddard Drive - Hazletville, PA 16830</small>	
TOLERANCES ARE:		DATE: 6/12/02			
FRACTION	DECIMAL	ANGLES		DRAFTED BY: TMG	
±1/64	.X	±.015 ±1°		ENGINEERED BY: TMG	6/12/02
	.XX	±.010		APPROVED BY:	
	.XXX	±.005		NEXT ASSY:	
BREAK ALL SHARP EDGES					
MATERIAL:					
FINISH:				USED ON:	
				DWG. NO. B-150-717	
				SCALE: NONE	
				SHEET 1	
				REV. A	