



8322S008

Lo-Cog® DC Motor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	12	
No-Load Speed	S_{NL}	rpm (rad/s)	7,847	(822)
Continuous Torque (Max.) ¹	T_C	oz-in (N-m)	1.6	(1.1E-02)
Peak Torque (Stall) ²	T_{PK}	oz-in (N-m)	7.4	(5.2E-02)
Weight	W_M	oz (g)	4.7	(133)
Motor Data				
Torque Constant	K_T	oz-in/A (N-m/A)	1.94	(1.37E-02)
Back-EMF Constant	K_E	V/krpm (V/rad/s)	1.43	(1.37E-02)
Resistance	R_T	Ω	3.10	
Inductance	L	mH	1.57	
No-Load Current	I_{NL}	A	0.25	
Peak Current (Stall) ²	I_P	A	3.88	
Motor Constant	K_M	oz-in/ \sqrt{W} (N-m/ \sqrt{W})	1.12	(7.91E-03)
Friction Torque	T_F	oz-in (N-m)	0.35	(2.5E-03)
Rotor Inertia	J_M	oz-in-s ² (kg-m ²)	1.4E-04	(9.9E-07)
Electrical Time Constant	τ_E	ms	0.52	
Mechanical Time Constant	τ_M	ms	15.6	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.015	(1.0E-06)
Damping Constant	K_D	oz-in/krpm (N-m-s)	0.92	(6.2E-05)
Maximum Winding Temperature	θ_{MAX}	$^{\circ}F$ ($^{\circ}C$)	311	(155)
Thermal Impedance	R_{TH}	$^{\circ}F/watt$ ($^{\circ}C/watt$)	75.9	(24.4)
Thermal Time Constant	τ_{TH}	min	7.8	
Gearbox Data				
Encoder Data				

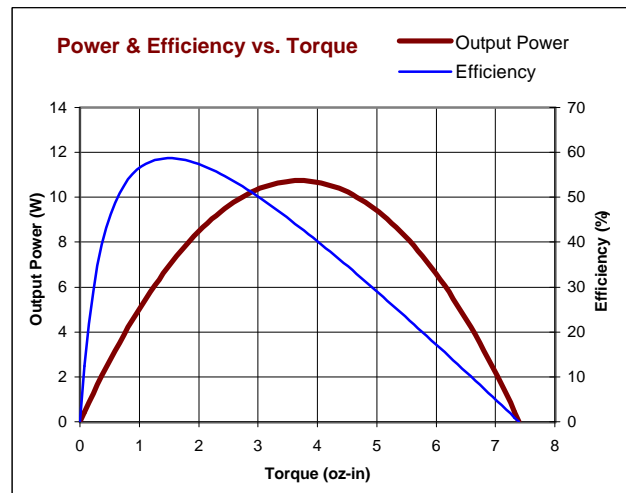
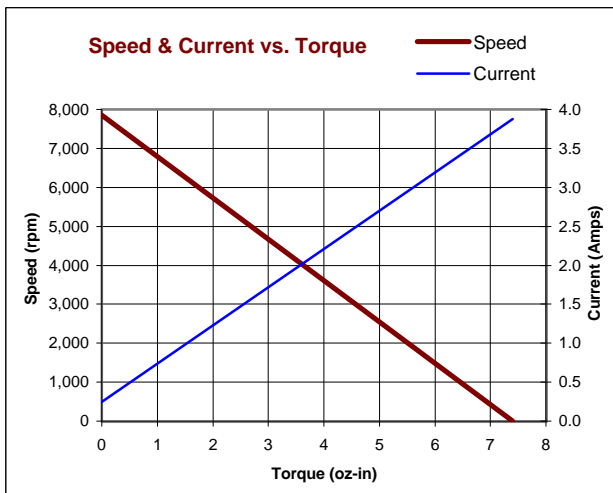
Included Features

- 2-Pole Stator
- Ceramic Magnets
- Heavy-Gauge Steel Housing
- 7-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

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

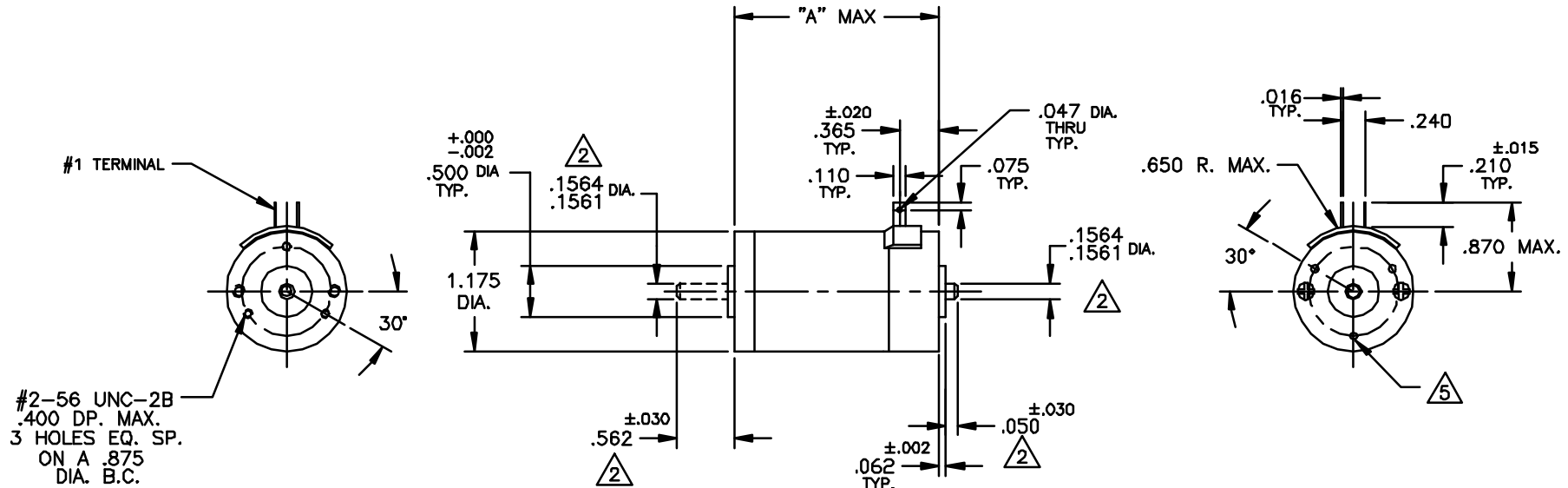


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
F	REDRAWN, UPDATED TO CURRENT STDS.	KUH/KUH	12/6/95	JRM
G	CHANGED 2.328 TO 2.378	TN/TN	5/24/00	JRM
H	REMOVED "TIN" FROM NOTE 4	EWS/EWS	1/21/00	JRM
J	DIM .016 WAS .020	TMG/TMG		



NOTES:

- SHAFT ROTATION IS CW, WHILE VIEWING THE MOUNTING END, WITH POSITIVE VOLTAGE (+) APPLIED TO THE #1 TERMINAL.
- ALL SHAFT DIMENSIONS NOTED ARE STANDARD (10-754-00). FOR ALL OTHER SHAFT CONFIGURATIONS, REFER TO DATA SHEET FOR PART NUMBERS.
- BALL BEARINGS: PRELOAD PER P-107; SLEEVE BEARINGS; .015 MAX ENDPLAY.
- TERMINALS ARE PLATED FOR SOLDERING.
- OPTIONAL REAR MOUNTING PATTERN-#2-56 UNC-2B, .250 DP. MAX, 3 HOLES EQ. SP. ON A .875 DIA B.C.

2.378	83X4
2.128	83X3
2.003	83X2
"A" MAX	MODEL NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		FILE: 150\26		
TOLERANCES ARE:		DRAFTED BY KUH DATE 1DEC95		
FRACTION ±1/64	DECIMAL .XX ±.015	ENGINEERED BY KUH DATE 1DEC95	TITLE: OUTLINE & MOUNTING DIMENSIONS 83XX SERIES MOTORS	
ANGLES ±1°	XX ±.010	APPROVED BY JRM DATE 12/6/95		
BREAK ALL SHARP EDGES		NEXT ASSY:	DWG. NO. 150-26 REV. J	
MATERIAL:		USED ON:		
FINISH:		SCALE: NONE	SHEET 1 OF 1	