

8324S004

Lo-Cog® DC Motor



Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	12	
No-Load Speed	S _{NL}	rpm (rad/s)	10,158	(1064)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	2.6	(1.8E-02)
Peak Torque (Stall) ²	T _{PK}	oz-in (N-m)	17	(1.2E-01)
Weight	W _M	oz (g)	5.8	(165)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	1.54	(1.09E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	1.14	(1.09E-02)
Resistance	R _T	Ω	1.17	
Inductance	L	mH	0.58	
No-Load Current	I _{NL}	A	0.36	
Peak Current (Stall) ²	I _P	A	10.3	
Motor Constant	K _M	oz-in/√W (N-m/√W)	1.49	(1.05E-02)
Friction Torque	T _F	oz-in (N-m)	0.35	(2.5E-03)
Rotor Inertia	J _M	oz-in-s ² (kg-m ²)	2.3E-04	(1.6E-06)
Electrical Time Constant	τ _E	ms	0.54	
Mechanical Time Constant	τ _M	ms	14.7	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.020	(1.4E-06)
Damping Constant	K _D	oz-in/krpm (N-m-s)	1.6	(1.1E-04)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	311	(155)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	70.5	(21.4)
Thermal Time Constant	τ _{TH}	min	10.7	
Gearbox Data				
Encoder Data				

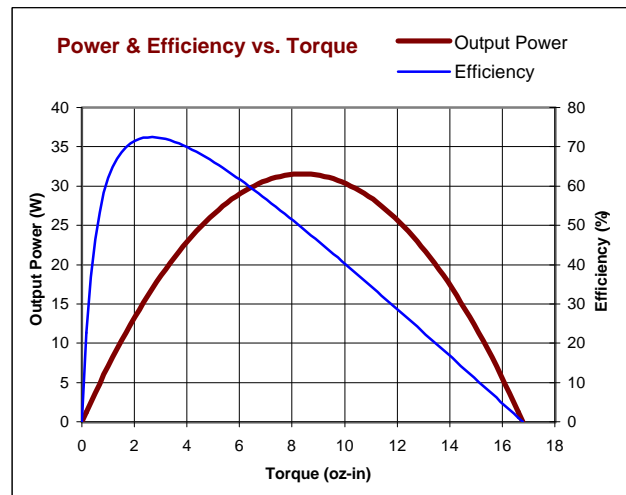
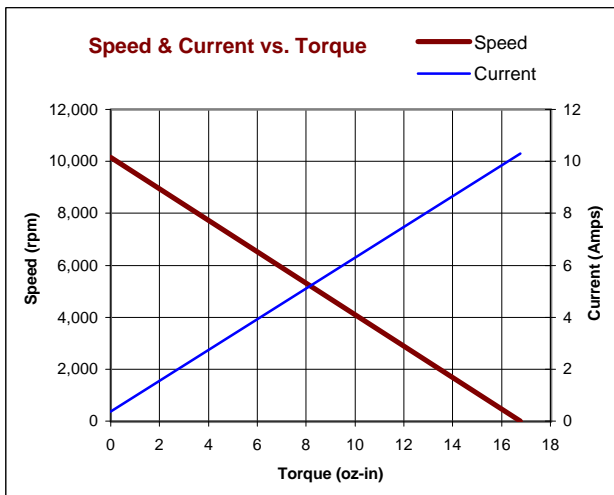
Included Features

- 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.

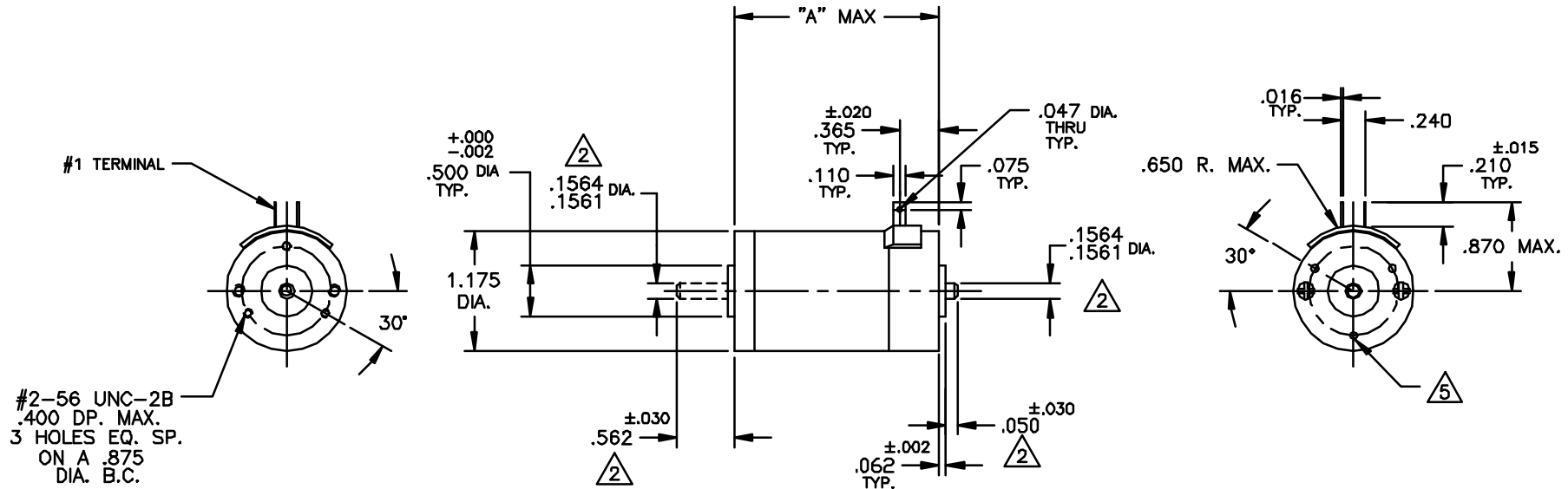


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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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. B- 150-26	
MATERIAL:		USED ON:		
FINISH:		SCALE: NONE	REV. J	
		SHEET 1 OF 1		