

# 9236S008

Lo-Cog® DC Motor



Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S <sub>NL</sub>	rpm (rad/s)	4,913	(514)
Continuous Torque (Max.) <sup>1</sup>	T <sub>C</sub>	oz-in (N-m)	9.5	(6.7E-02)
Peak Torque (Stall) <sup>2</sup>	T <sub>PK</sub>	oz-in (N-m)	62	(4.4E-01)
Weight	W <sub>M</sub>	oz (g)	14	(391)
Motor Data				
Torque Constant	K <sub>T</sub>	oz-in/A (N-m/A)	6.49	(4.58E-02)
Back-EMF Constant	K <sub>E</sub>	V/krpm (V/rad/s)	4.80	(4.58E-02)
Resistance	R <sub>T</sub>	Ω	2.49	
Inductance	L	mH	2.63	
No-Load Current	I <sub>NL</sub>	A	0.16	
Peak Current (Stall) <sup>2</sup>	I <sub>P</sub>	A	9.64	
Motor Constant	K <sub>M</sub>	oz-in/√W (N-m/√W)	4.11	(2.90E-02)
Friction Torque	T <sub>F</sub>	oz-in (N-m)	0.80	(5.6E-03)
Rotor Inertia	J <sub>M</sub>	oz-in-s <sup>2</sup> (kg-m <sup>2</sup> )	1.0E-03	(7.1E-06)
Electrical Time Constant	τ <sub>E</sub>	ms	1.06	
Mechanical Time Constant	τ <sub>M</sub>	ms	8.5	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.053	(3.5E-06)
Damping Constant	K <sub>D</sub>	oz-in/krpm (N-m-s)	13	(8.5E-04)
Maximum Winding Temperature	θ <sub>MAX</sub>	°F (°C)	311	(155)
Thermal Impedance	R <sub>TH</sub>	°F/watt (°C/watt)	56.3	(13.5)
Thermal Time Constant	τ <sub>TH</sub>	min	13.5	
Gearbox Data				
Encoder Data				

**Included Features**

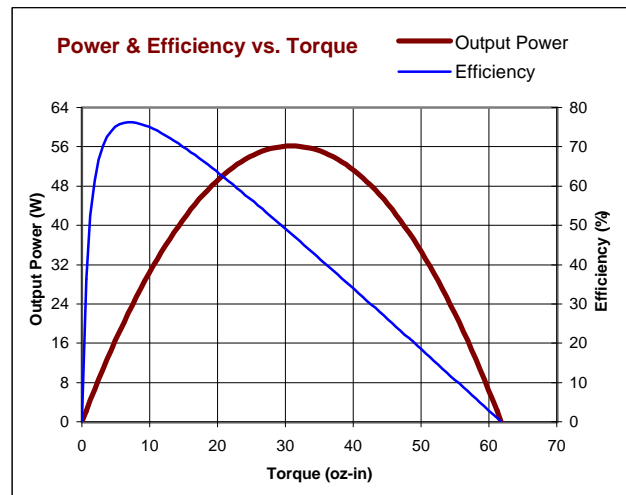
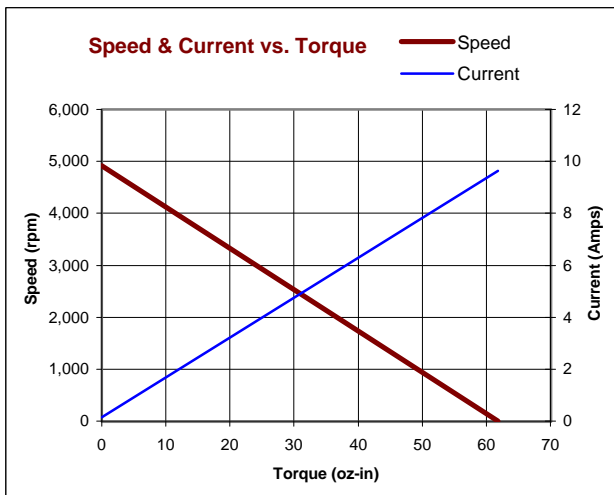
- 2-Pole Stator
- Ceramic Magnets
- Heavy-Gauge Steel Housing
- 7-Slot Armature
- Silicon Steel Laminations
- Stainless Steel Shaft
- Copper-Graphite Brushes
- Diamond Turned Commutator
- Motor Ball Bearings

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**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.

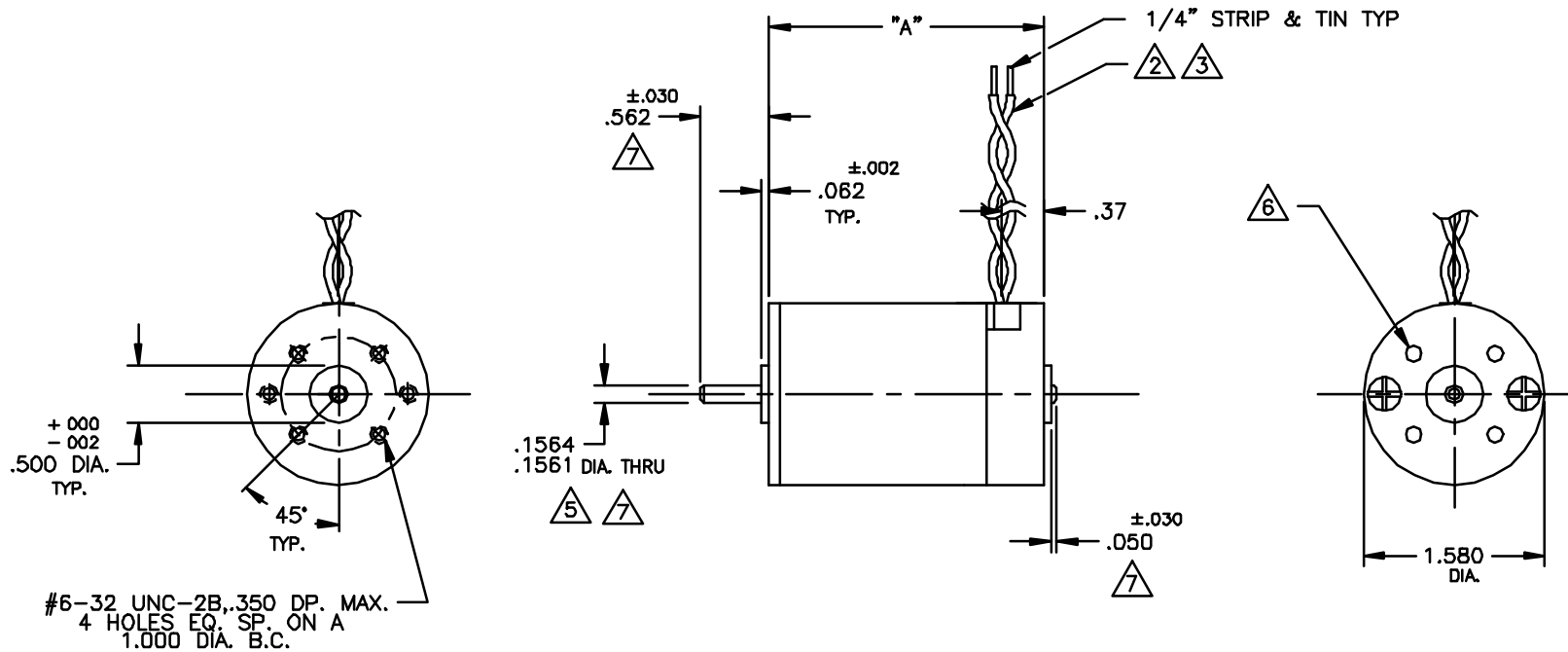


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
D	REDRAWN & REVISED	RJS/RJS	3/20/96	JRM
E	1/4" STRIP & TIN WAS "STRIP"	KUH/KUH		



3.053	92X6
2.703	92X5
2.403	92X4
2.203	92X3
1.828	92X2
"A" MAX	MODEL No.

NOTES:

- SHAFT ROTATION IS CW VIEWING MOUNTING END WITH POSITIVE (+) VOLTAGE APPLIED TO RED LEAD.
- LEADS ARE 22 AWG (7X30) PVC INSULATION, UL STYLE 1569/1007. RED AND BLACK
- STANDARD LEAD LENGTH IS  $18" \pm 1/2"$
- ENDPLAY-.015 MAX. FOR SLEEVE BEARING MOTORS. BALL BEARING MOTORS ARE PRE-LOADED PER SPEC. P-107
- OPTIONAL SHAFT DIA.  $.1246/.1243$  IS AVAILABLE ONLY WITH THE 94X2 AND 94X3 MOTOR LENGTHS.
- OPTIONAL REAR ENDBELL MOUNTING PATTERN #6-32 UNC-2B,  $.180$  MAX THREAD PENETRATION, 4 HOLES EQ. SP. ON A 1.000 DIA B.C.
- ALL SHAFT DIMENSIONS NOTED ARE STANDARD (10-631-00); FOR ALL OTHER SHAFT CONFIGURATIONS REFER TO DATA SHEET FOR PART #'S

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTION DECIMAL ANGLES $\pm 1/84$ $\pm .015$ $\pm 15$ $\pm .010$ $\pm .005$ BREAK ALL SHARP EDGES		FILE:	DATE: 3/20/95	
DRAFTED BY: RJS		ENGINEERED BY: RJS		
APPROVED BY:		NEXT ASSY:		
MATERIAL:		USED ON:		<b>TITLE:</b> OUTLINE AND MTG. DIMS. 92XX SERIES MOTOR
FINISH:		SCALE: NONE		<b>DWG. NO.</b> B-150-409 <b>REV.</b> E
		SHEET 1		