

# 14206S011

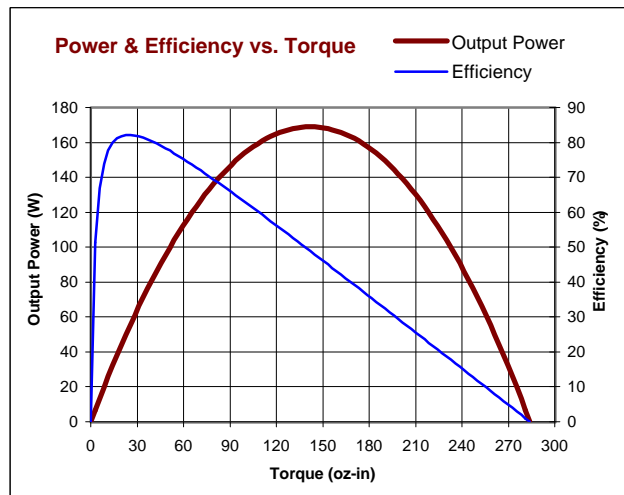
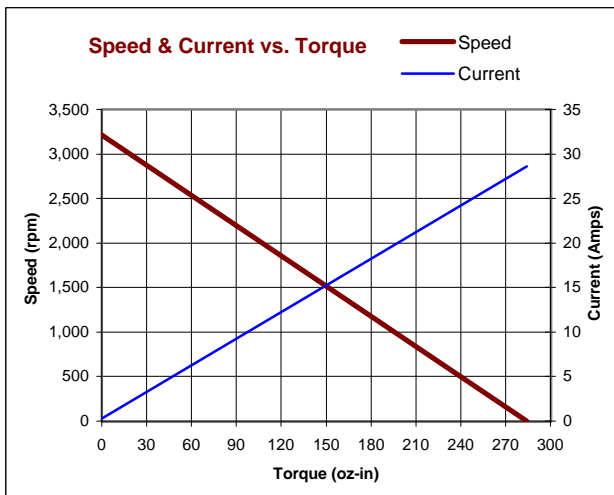
Lo-Cog® DC Motor



Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S <sub>NL</sub>	rpm (rad/s)	3,216	(337)
Continuous Torque (Max.) <sup>1</sup>	T <sub>C</sub>	oz-in (N-m)	37	(2.6E-01)
Peak Torque (Stall) <sup>2</sup>	T <sub>PK</sub>	oz-in (N-m)	284	(2.0E+00)
Weight	W <sub>M</sub>	oz (g)	45	(1287)
Motor Data				
Torque Constant	K <sub>T</sub>	oz-in/A (N-m/A)	10.0	(7.06E-02)
Back-EMF Constant	K <sub>E</sub>	V/krpm (V/rad/s)	7.39	(7.06E-02)
Resistance	R <sub>T</sub>	Ω	0.84	
Inductance	L	mH	1.36	
No-Load Current	I <sub>NL</sub>	A	0.26	
Peak Current (Stall) <sup>2</sup>	I <sub>P</sub>	A	28.6	
Motor Constant	K <sub>M</sub>	oz-in/√W (N-m/√W)	10.9	(7.70E-02)
Friction Torque	T <sub>F</sub>	oz-in (N-m)	2.0	(1.4E-02)
Rotor Inertia	J <sub>M</sub>	oz-in-s <sup>2</sup> (kg-m <sup>2</sup> )	5.2E-03	(3.7E-05)
Electrical Time Constant	τ <sub>E</sub>	ms	1.62	
Mechanical Time Constant	τ <sub>M</sub>	ms	6.2	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.19	(1.3E-05)
Damping Constant	K <sub>D</sub>	oz-in/krpm (N-m-s)	88	(5.9E-03)
Maximum Winding Temperature	θ <sub>MAX</sub>	°F (°C)	311	(155)
Thermal Impedance	R <sub>TH</sub>	°F/watt (°C/watt)	44.2	(6.80)
Thermal Time Constant	τ <sub>TH</sub>	min	33.6	
Gearbox Data				
Encoder Data				

- 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

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

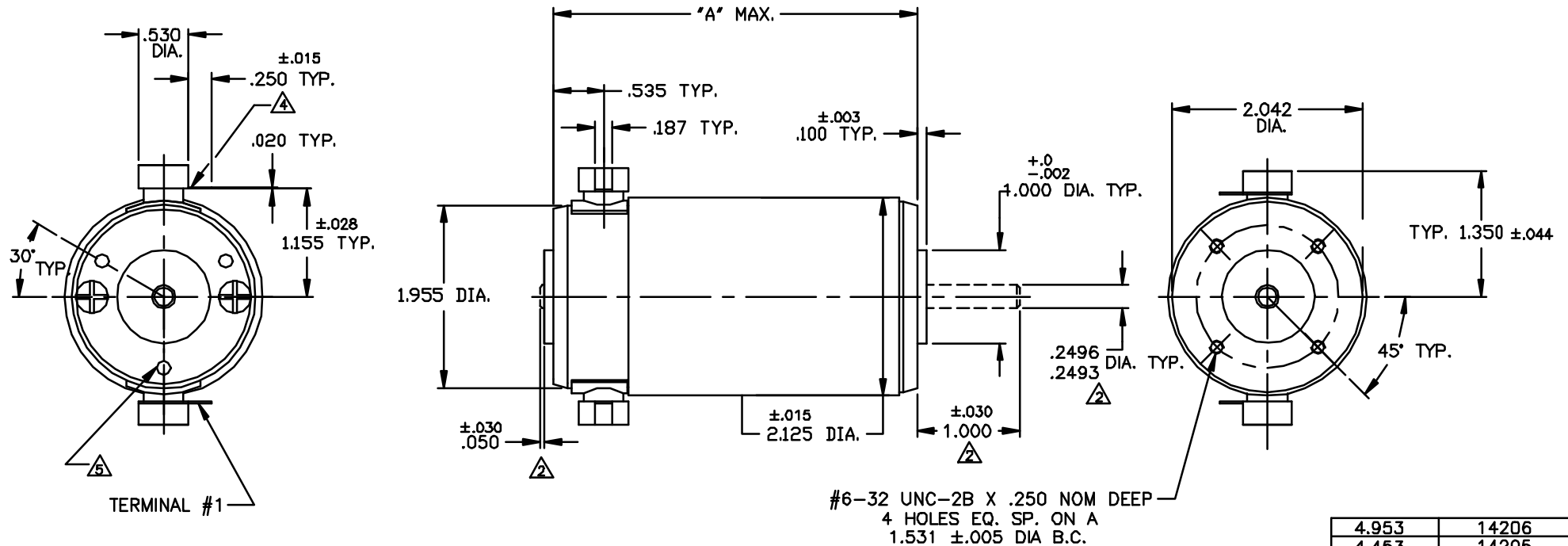


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
H	REDRAWN	KNJ	6-28-94	JRM
J	UPDATED TO CURRENT OUTLINE STANDARDS	KUH/KUH	8-7-94	JRM
K	REVISED ENDBELL DIMS	KUH/KUH	1-31-96	JRM
L	REVISED ENDBELL DIMS	TMG/DLF		



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

NOTES

- SHAFT ROTATION IS CW, WHILE VIEWING THE MOUNTING END, WITH POSITIVE VOLTAGE (+) APPLIED TO #1 TERMINAL.
- ALL SHAFT DIMENSIONS NOTED ARE STANDARD (11-140-00□). FOR ALL OTHER SHAFT CONFIGURATIONS, REFER TO DATA SHEET FOR SHAFT PART NUMBERS.
- BALL BEARINGS: PRELOAD PER P-107, SLEEVE BEARINGS: .015 MAX ENDPLAY.
- TERMINALS WILL MATE WITH 187 SERIES AMP, INC., OR ETC, INC. PUSH ON RECEPTACLE.
- OPTIONAL REAR MOUNTING HOLES TAPPED #6-32 UNC-2B X .200 NOM DEEP ON A 1.531 DIA B.C., 3 HOLES EQ. SP. AS SHOWN.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		FILE:	150/57		
TOLERANCES ARE:		DRAFTED BY:	KNJ		
FRACTION	DECIMAL	ANGLES	ENGINEERED BY:	KNJ	25JUN94
±1/64	±.015	±1°	APPROVED BY:	JVM	25JUN94
BXX ±.010 XXX±.005		NEXT ASSY:		TITLE: OUTLINE AND MOUNTING DIMS FOR 142XX SERIES	
BREAK ALL SHARP EDGES		USED ON:		DWG. NO. B-150-57	
MATERIAL:				SCALE: DNS SHEET 1 OF 1	
FINISH:				REV. L	