



# 6313S004-R1

Lo-Cog® DC Motor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S <sub>NL</sub>	rpm (rad/s)	7,780	(815)
Continuous Torque (Max.) <sup>1</sup>	T <sub>C</sub>	oz-in (N-m)	1.3	(9.3E-03)
Peak Torque (Stall) <sup>2</sup>	T <sub>PK</sub>	oz-in (N-m)	5.6	(3.9E-02)
Weight	W <sub>M</sub>	oz (g)	2.1	(60)
Motor Data				
Torque Constant	K <sub>T</sub>	oz-in/A (N-m/A)	4.04	(2.85E-02)
Back-EMF Constant	K <sub>E</sub>	V/krpm (V/rad/s)	2.99	(2.85E-02)
Resistance	R <sub>T</sub>	Ω	16.9	
Inductance	L	mH	11.0	
No-Load Current	I <sub>NL</sub>	A	0.05	
Peak Current (Stall) <sup>2</sup>	I <sub>P</sub>	A	1.42	
Motor Constant	K <sub>M</sub>	oz-in/√W (N-m/√W)	0.98	(6.9E-03)
Friction Torque	T <sub>F</sub>	oz-in (N-m)	0.19	(1.3E-03)
Rotor Inertia	J <sub>M</sub>	oz-in-s <sup>2</sup> (kg-m <sup>2</sup> )	9.57E-05	(6.8E-07)
Electrical Time Constant	τ <sub>E</sub>	ms	0.65	
Mechanical Time Constant	τ <sub>M</sub>	ms	14.0	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.0089	(6.0E-07)
Damping Constant	K <sub>D</sub>	oz-in/krpm (N-m-s)	0.71	(4.8E-05)
Maximum Winding Temperature	θ <sub>MAX</sub>	°F (°C)	266	(130)
Thermal Impedance	R <sub>TH</sub>	°F/watt (°C/watt)	87.4	(30.8)
Thermal Time Constant	τ <sub>TH</sub>	min	11.3	
Gearbox Data				
Encoder Data				

**Included Features**

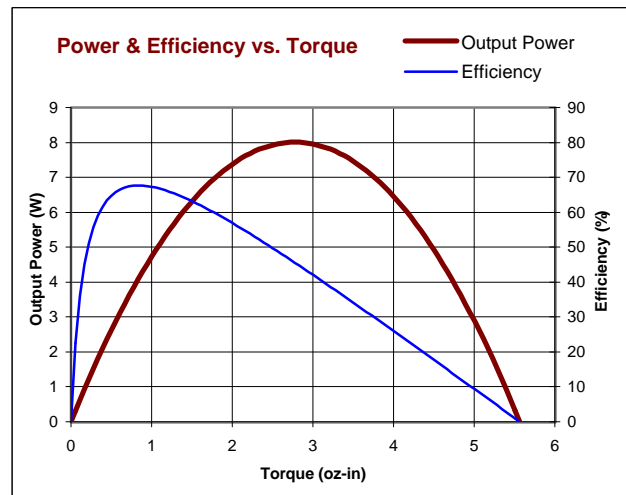
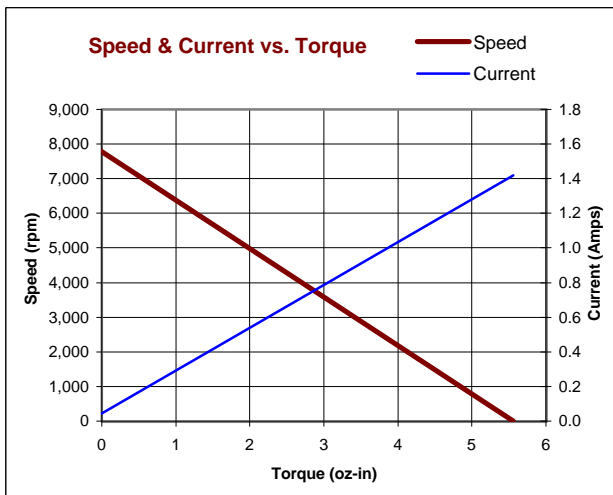
- 2-Pole Stator
- Neodymium Magnets
- Heavy-Gauge Steel Housing
- 5-Slot Armature
- Silicon Steel Laminations
- Stainless Steel Shaft
- Copper-Graphite Brushes
- Diamond Turned Commutator
- Motor Sleeve Bearings

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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

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

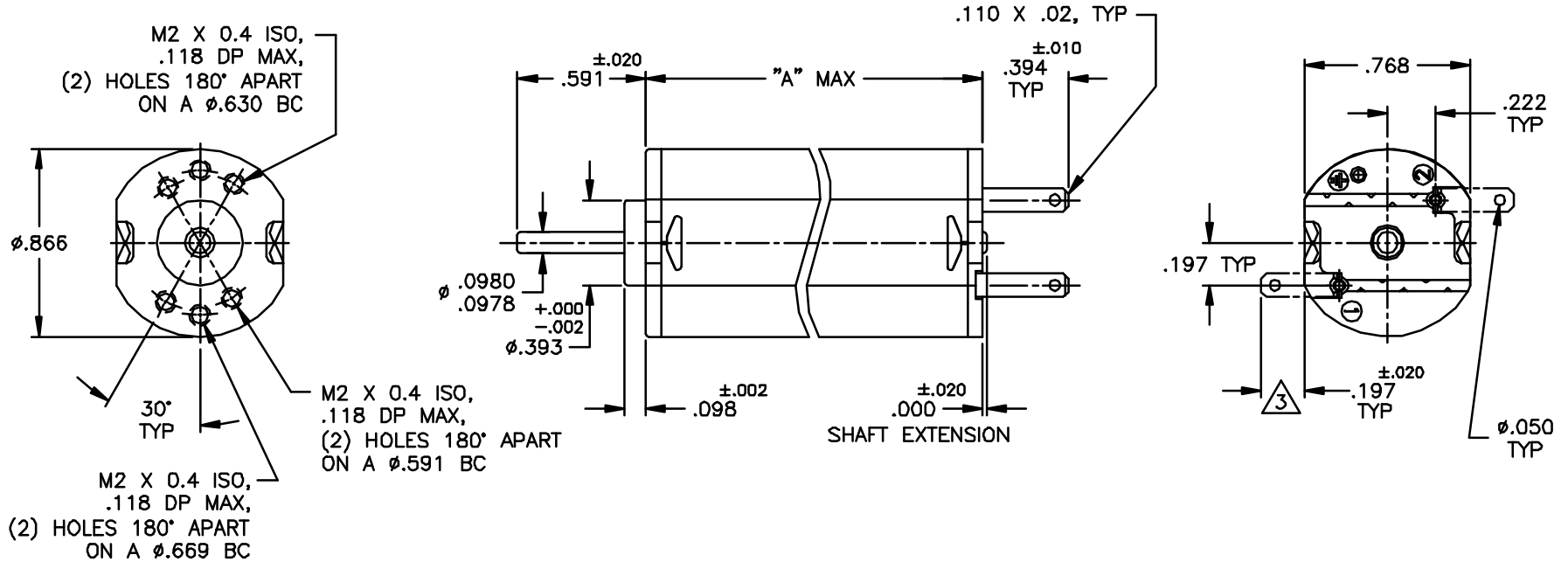


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	CLU/CLU	8-25-99	JVM
B	MTG END EXT WAS .394±.030	CLU/CLU	10-20-99	JH
C	REMOVED "OPTIONAL" TAP CALLOUTS	CLU/CLU	12-9-99	JH
D	.015 MAX. ENDPLAY WAS .020	EWS/DLF	6-2-00	KPW
E	ADDED NOTE 4	EWS/EWS	10-6-00	KPW
F	REVISED BRUSH END VIEW	EWS/EWS		



NOTES:

- SHAFT ROTATION IS CW, WHILE VIEWING MOUNTING END WITH POSITIVE (+) VOLTAGE APPLIED TO #1 TERMINAL.
- SHAFT ENDPLAY: .015 MAX, SLEEVE BEARINGS ARE STANDARD, BALL BEARINGS OPTIONAL.
- OPTIONAL CONFIGURATION.
- ALL 22M MOTORS SHALL BE RECIEVE A STANDARD RUN-IN @ 75% OF THE RATED WINDING VOLTAGE, APPLIED FOR 4 HOURS MINIMUM, REVERSING DIRECTION EVERY ONE MINUTE, WITH RAMP-DOWN & RAMP-UP.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTION DECIMAL ANGLES $\pm$ 1/64 $\pm$ .015 $\pm$ 1° XX $\pm$ .010 XXX $\pm$ .005 BREAK ALL SHARP EDGES	FILE:	150\624			
	DRAFTED BY:	CLU		DATE:	8-23-99
	ENGINEERED BY:	CLU		DATE:	8-23-99
	APPROVED BY:	JVM		DATE:	8-25-99
MATERIAL:	NEXT ASSY:		<b>TITLE:</b> STANDARD OUTLINE & MOUNTING DIMENSIONS 63XX, 22mm SERIES		
FINISH:	USED ON:		<b>DWG. NO.</b> B- 150-624		
			<b>SCALE:</b> (2x) <b>SHEET</b> 1 OF 1		
			<b>REV.</b> F		