



## GM14604S002

Lo-Cog® DC Gearmotor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S <sub>NL</sub>	rpm (rad/s)	49	(5.1)
Continuous Torque (Max.) <sup>1</sup>	T <sub>C</sub>	oz-in (N-m)	1125	(7.9)
Peak Torque (Stall) <sup>2</sup>	T <sub>PK</sub>	oz-in (N-m)	7803	(55)
Weight	W <sub>M</sub>	oz (g)	48.2	(1366)
Motor Data				
Torque Constant	K <sub>T</sub>	oz-in/A (N-m/A)	8.67	(6.12E-02)
Back-EMF Constant	K <sub>E</sub>	V/krpm (V/rad/s)	6.41	(6.12E-02)
Resistance	R <sub>T</sub>	Ω	1.01	
Inductance	L	mH	1.60	
No-Load Current	I <sub>NL</sub>	A	0.26	
Peak Current (Stall) <sup>2</sup>	I <sub>P</sub>	A	23.8	
Motor Constant	K <sub>M</sub>	oz-in/√W (N-m/√W)	8.63	(6.09E-02)
Friction Torque	T <sub>F</sub>	oz-in (N-m)	1.6	(1.1E-02)
Rotor Inertia	J <sub>M</sub>	oz-in-s <sup>2</sup> (kg-m <sup>2</sup> )	3.7E-03	(2.6E-05)
Electrical Time Constant	τ <sub>E</sub>	ms	1.58	
Mechanical Time Constant	τ <sub>M</sub>	ms	7.0	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.18	(1.2E-05)
Damping Constant	K <sub>D</sub>	oz-in/krpm (N-m-s)	55	(3.7E-03)
Maximum Winding Temperature	θ <sub>MAX</sub>	°F (°C)	311	(155)
Thermal Impedance	R <sub>TH</sub>	°F/watt (°C/watt)	45.9	(7.7)
Thermal Time Constant	τ <sub>TH</sub>	min	28.8	
Gearbox Data				
Reduction Ratio			75.1	
Efficiency			0.51	
Maximum Allowable Torque		oz-in (N-m)	2000	(14.12)
Encoder Data				

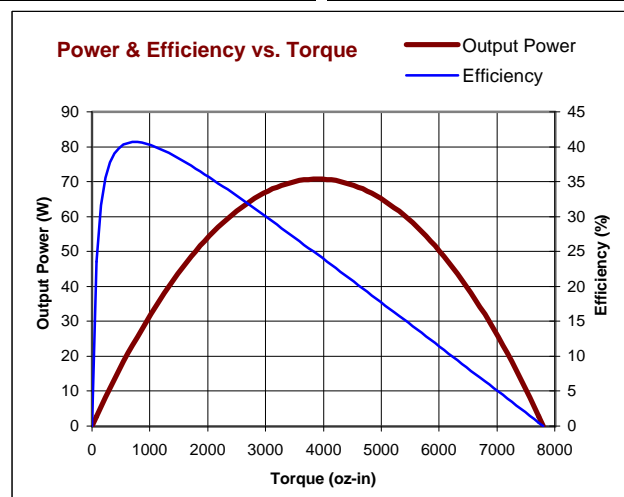
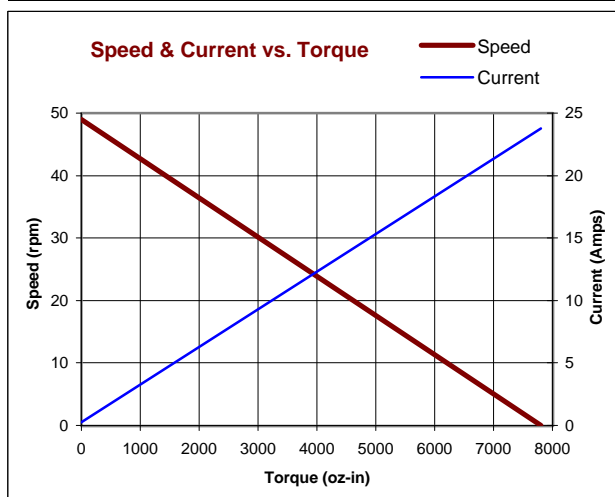
1 - Specified at max. winding temperature at 25°C ambient without heat sink. 2 - Theoretical values supplied for reference only.

### 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
- Output Ball Bearing
- Planetary Gearbox

### Customization Options

- Alternate Winding
- Sleeve or Ball Bearings
- Modified Output Shaft
- Custom Cable Assembly
- Special Brushes
- EMI/RFI Suppression
- Alternate Gear Material
- Special Lubricant
- Optional Encoder
- Fail-Safe Brake



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

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