



GM8724S023

Lo-Cog® DC Servo Gearmotor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S_{NL}	rpm (rad/s)	75	(7.9)
Continuous Torque (Max.) ¹	T_C	oz-in (N-m)	113	(8.0E-01)
Peak Torque (Stall) ²	T_{PK}	oz-in (N-m)	328	(2.3E+00)
Weight	W_M	oz (g)	11.4	(324)
Motor Data				
Torque Constant	K_T	oz-in/A (N-m/A)	6.18	(4.36E-02)
Back-EMF Constant	K_E	V/krpm (V/rad/s)	4.57	(4.36E-02)
Resistance	R_T	Ω	17.0	
Inductance	L	mH	9.35	
No-Load Current	I_{NL}	A	0.09	
Peak Current (Stall) ²	I_P	A	1.41	
Motor Constant	K_M	oz-in/ \sqrt{W} (N-m/ \sqrt{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				
Reduction Ratio			60.5	
Efficiency ³			0.78	
Maximum Allowable Torque		oz-in (N-m)	175	(1.24)
Encoder Data				
Channels			3	
Resolution		CPR	500	

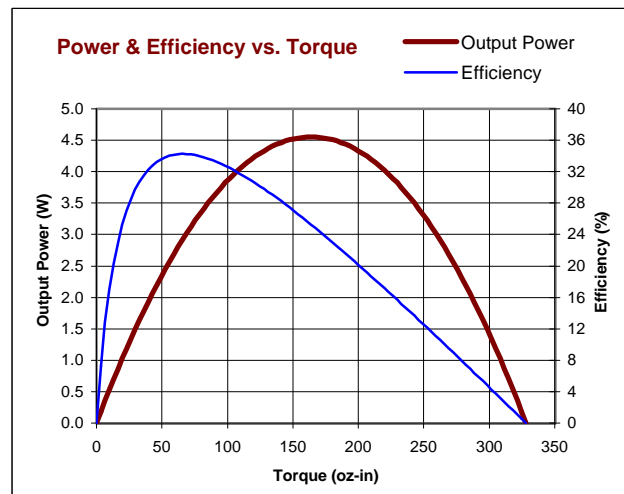
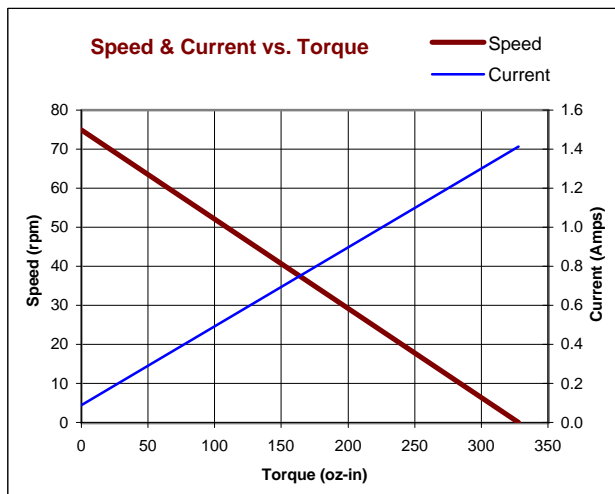
1 - Specified at max. winding temperature at 25°C ambient without heat sink. 2 - Theoretical values supplied for reference only.
3 - Effective gearbox efficiency for this unit improved by use of ball bearings.

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
- Output Ball Bearing
- Wide Face Gears

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

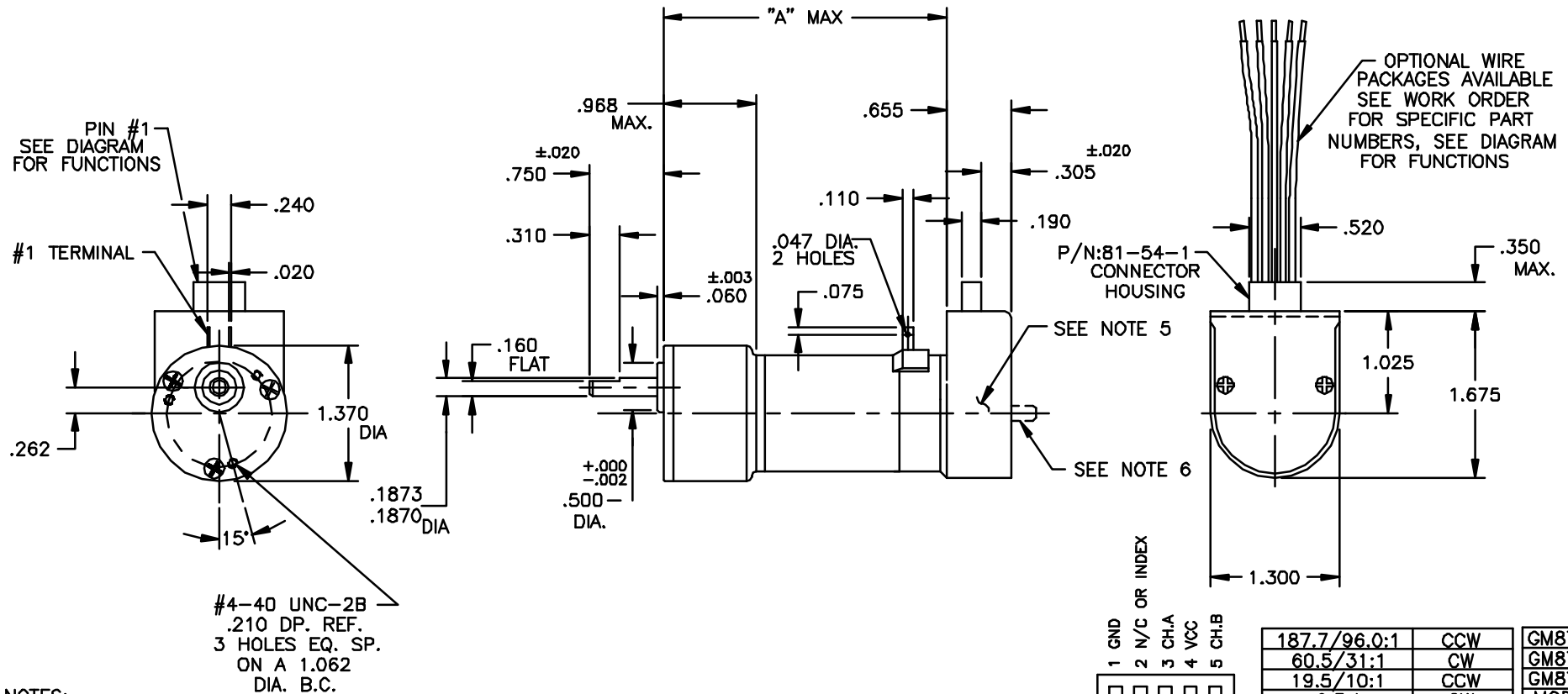


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
B	REDRAWN, UPDATED	DLF/DLF		



NOTES:

- SHAFT ROTATION IS DETERMINED WITH POSITIVE VOLTAGE (+) ON #1 TERMINAL, WHILE LOOKING AT MOUNTING END.
- MOTOR IS PRELOADED BALL BEARINGS PER P-107,.020 MAX. ON OUTPUT SHAFT.
- MAX. GEARBOX TORQUE RATING IS 100 oz.in. STANDARD GEARBOX, 160 oz.in. FOR CUT STEEL.
- TERMINALS ARE TIN PLATED FOR SOLDERING, WILL MATE WITH .110 PUSH-ON RECEPTACLE.
- ENCLOSED IS A HEDS-91X0 OPTICAL ENCODER.
- OPTIONAL REAR SHAFT EXTENSIONS AVAILABLE.
- ENCODER LEAD CONNECTIONS TO BE DONE PER INDIVIDUAL LEAD WIRE DRAWING.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		FILE: 150\306			
FRACTION	DECIMAL	ANGLES			
±1/84	±.015	±1°	DRAFTED BY: DLF	DATE: 15 JUL 94	TITLE: OUTLINE AND MOUNTING DIMENSIONS GM8700 W/9100, STANDARD
	±.010		ENGINEERED BY: DLF	15 JUL 94	
	±.005		APPROVED BY:		
BREAK ALL SHARP EDGES			NEXT ASSY:		
MATERIAL:			USED ON:		DWG. NO. B- 150-306
FINISH:					SCALE: NONE SHEET 1 OF 1
					REV. B