GM14904S011

Lo-Cog® DC Gearmotor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S_{NL}	rpm (rad/s)	597	(62.5)
Continuous Torque (Max.)[1]	T_C	oz-in (N-m)	124	(0.88)
Peak Torque (Stall)[2]	T_{PK}	oz-in (N-m)	975	(6.9)
Weight	W_M	oz (g)	41.1	(1165)
Motor Data				
Torque Constant	K_T	oz-in/A (N-m/A)	8.67	(6.12E-02)
Back-EMF Constant	K_E	V/krpm (V/rad/s)	6.41	(6.12E-02)
Resistance	R_T	Ω	1.01	
Inductance	L	mH	1.6	
No-Load Current	I_{NL}	A	0.26	
Peak Current (Stall)[2]	I_P	A	23.8	
Motor Constant	K_M	oz-in/√W (N-m/√W)	8.63	(6.09E-02)
Friction Torque	T_F	oz-in (N-m)	1.6	(1.1E-02)
Rotor Inertia	J_M	oz-in-s^2 (kg-m^2)	3.7E-03	(2.6E-05)
Electrical Time Constant	τ_E	ms	1.58	
Mechanical Time Constant	τ_M	ms	7.0	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.18	(1.2E-05)
Damping Constant	K_D	oz-in/krpm (N-m-s)	55	(3.7E-03)
Maximum Winding Temperature	θ_{MAX}	ºF (ºC)	311	(155)
Thermal Impedance	R_{TH}	ºF/watt (ºC/watt)	45.9	(7.7)
Thermal Time Constant	τ_{TH}	min	28.8	
Gearbox Data				
Reduction Ratio			5.9	
Efficiency[3]			0.90	
Maximum Allowable Torque		oz-in (N-m)	300	(2.12)
Encoder Data				

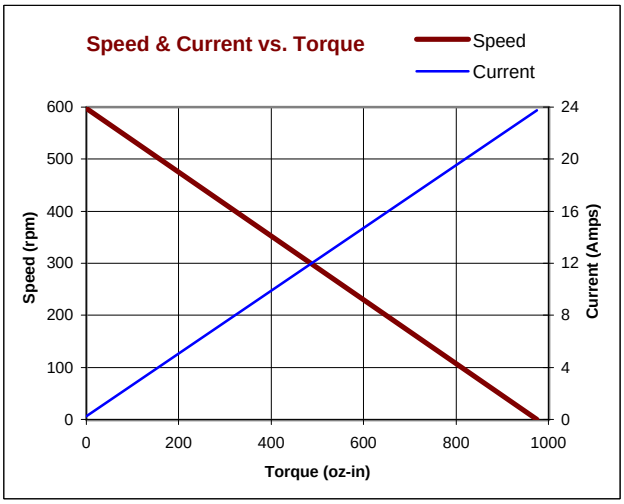
1 - Specified at max. winding temperature at 25ºC ambient without heat sink. 2 - Theoretical values supplied for reference only.
3 - Effective gearbox efficiency for this unit improved by use of ball bearings.

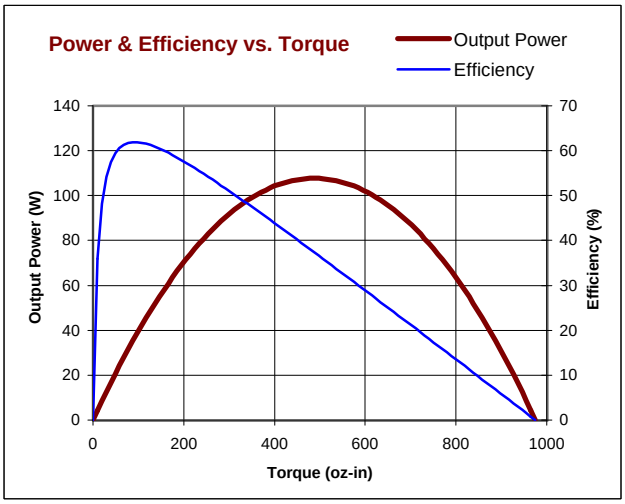
Included Features

2-Pole Stator
Ceramic Magnets
Heavy-Guage Steel Housing
11-Slot Armature
Silicon Steel Laminations
Stainless Steel Shaft
Copper-Graphite Brushes
Diamond Turned Commutator
Motor Ball Bearings
Output Ball Bearing
High Torque 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





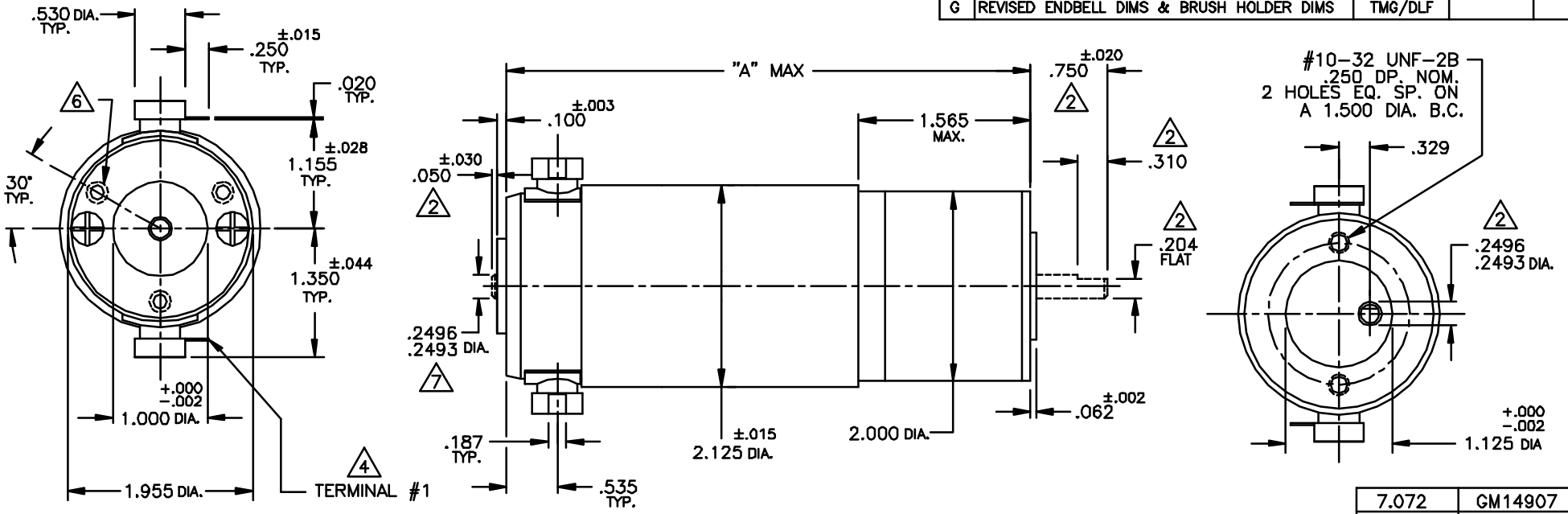
All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

PITTMAN, 343 Godshall Drive, Harleysville, PA 19438, Phone: 877-PITTMAN, Fax: 215-256-1338, E-mail: info@pittmannet.com, Web Site: www.pittmannet.com

UNCONTROLLED

REVISIONS

LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
C	REDRAWN, UPDATED TO CURRENT STDS.	KUH/KUH	9/15/95	JRM
D	ADDED -7 LENGTH TO CHART	KUH/KUH	1/7/96	HCL
E	REVISED NOTE 3	RJS/RJS	9/5/97	HCL
F	REVISED MTG. ENDBELL/GEARPLATE PER ECO	EWS/EWS	12/12/00	JRM
G	REVISED ENDBELL DIMS & BRUSH HOLDER DIMS	TMG/DLF		



NOTES:

1. SHAFT ROTATION IS FIGURED WHILE VIEWING THE MOUNTING END, WITH POSITIVE VOLTAGE (+) APPLIED TO TERMINAL #1. SEE CHART.
2. ALL OUTPUT SHAFT DIMENSIONS NOTED ARE STANDARD (10-535). FOR ALL OTHER SHAFT CONFIGURATIONS, REFER TO DATA SHEET FOR SHAFT PART NUMBERS.
3. ENDPLAY: MOTOR SHAFT PRELOADED PER P-107 (BALL BEARINGS), OR .015 MAX ENDPLAY (SLEEVE BEARINGS). OUTPUT SHAFT: .020 MAX ENDPLAY.
4. TERMINALS WILL MATE WITH 187 SERIES AMP, INC., OR ETC, INC. PUSH ON RECEPTACLE.
5. MAX. GEARBOX TORQUE IS 175 OZ. IN., STANDARD GEARING.
   MAX. GEARBOX TORQUE IS 300 OZ. IN., HI-TORQUE GEARING.
   MAX. GEARBOX TORQUE IS 500 OZ. IN., WIDE FACE GEARING.
6. OPTIONAL REAR MOUNTING PATTERN, #6-32 UNC-2B, .200 NOM DP. ON A 1.531 DIA. B.C.
7. STANDARD SHAFT DIA. FOR GM14907 IS 8MM (.3147/.3144 DIA.).

GEARING	GEAR RATIO	ROTATION	"A" MAX	MODEL NO.
ALL TYPES	728:1	CW	7.072	GM14907
ALL TYPES	218.4:1	CCW	6.322	GM14906
ALL TYPES	65.5:1	CW	5.822	GM14905
ALL TYPES	19.7:1	CCW	5.447	GM14904
STD	5.9:1	CW	5.072	GM14903
			4.572	GM14902
			4.322	GM14901

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTION ±1/64 DECIMAL .X ±.016 .XX ±.010 .XXX ±.005 ANGLES ±1°
BREAK ALL SHARP EDGES
MATERIAL:
FINISH:

FILE: 150\196
DRAFTED BY KUH DATE 12 SEP 95
ENGINEERED BY KUH 12 SEP 95
APPROVED BY JRM 15 SEP 95
NEXT ASSY:
USED ON.

PITTMAN

TITLE: OUTLINE & MOUNTING DIMENSIONS GM1490X SERIES

DWG. NO. B- 150-196 REV. G

SCALE: DNS SHEET 1 OF 1