GM14902S018

Lo-Cog® DC Servo Gearmotor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	12	
No-Load Speed	S_{NL}	rpm (rad/s)	59	(6.2)
Continuous Torque (Max.)[1]	T_C	oz-in (N-m)	500	(3.5)
Peak Torque (Stall)[2]	T_{PK}	oz-in (N-m)	4625	(33)
Weight	W_M	oz (g)	35.9	(1017)
Motor Data				
Torque Constant	K_T	oz-in/A (N-m/A)	3.90	(2.75E-02)
Back-EMF Constant	K_E	V/krpm (V/rad/s)	2.88	(2.75E-02)
Resistance	R_T	Ω	0.45	
Inductance	L	mH	0.63	
No-Load Current	I_{NL}	A	0.49	
Peak Current (Stall)[2]	I_P	A	26.7	
Motor Constant	K_M	oz-in/√W (N-m/√W)	5.93	(4.19E-02)
Friction Torque	T_F	oz-in (N-m)	1.2	(8.5E-03)
Rotor Inertia	J_M	oz-in-s^2 (kg-m^2)	2.3E-03	(1.6E-05)
Electrical Time Constant	τ_E	ms	1.47	
Mechanical Time Constant	τ_M	ms	9.3	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.17	(1.1E-05)
Damping Constant	K_D	oz-in/krpm (N-m-s)	26	(1.8E-03)
Maximum Winding Temperature	θ_{MAX}	ºF (ºC)	311	(155)
Thermal Impedance	R_{TH}	ºF/watt (ºC/watt)	48.2	(9.0)
Thermal Time Constant	τ_{TH}	min	24.0	
Gearbox Data				
Reduction Ratio			65.5	
Efficiency[3]			0.80	
Maximum Allowable Torque		oz-in (N-m)	500	(3.53)
Encoder Data				
Channels			3	
Resolution		CPR	500	

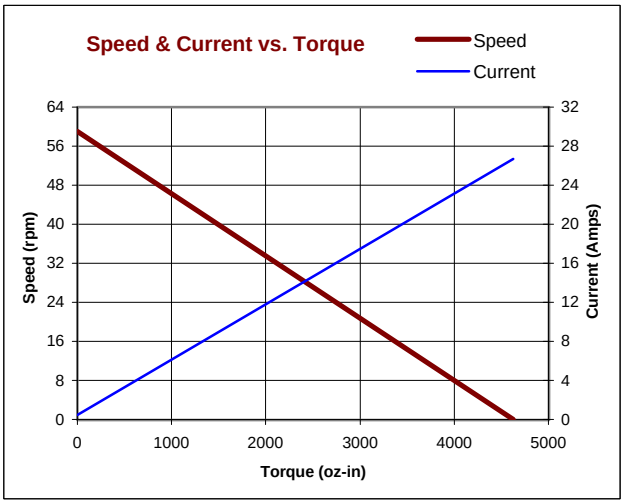
1 - Specified at max. winding temperature at 25ºC ambient without heat sink. 2 - Theoretical values supplied for reference only.
3 - Effective gearbox efficiency for this unit improved by use of ball bearings.

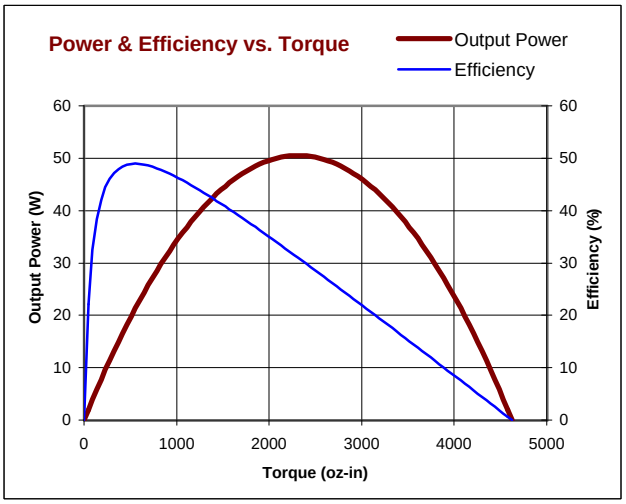
Included Features

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
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

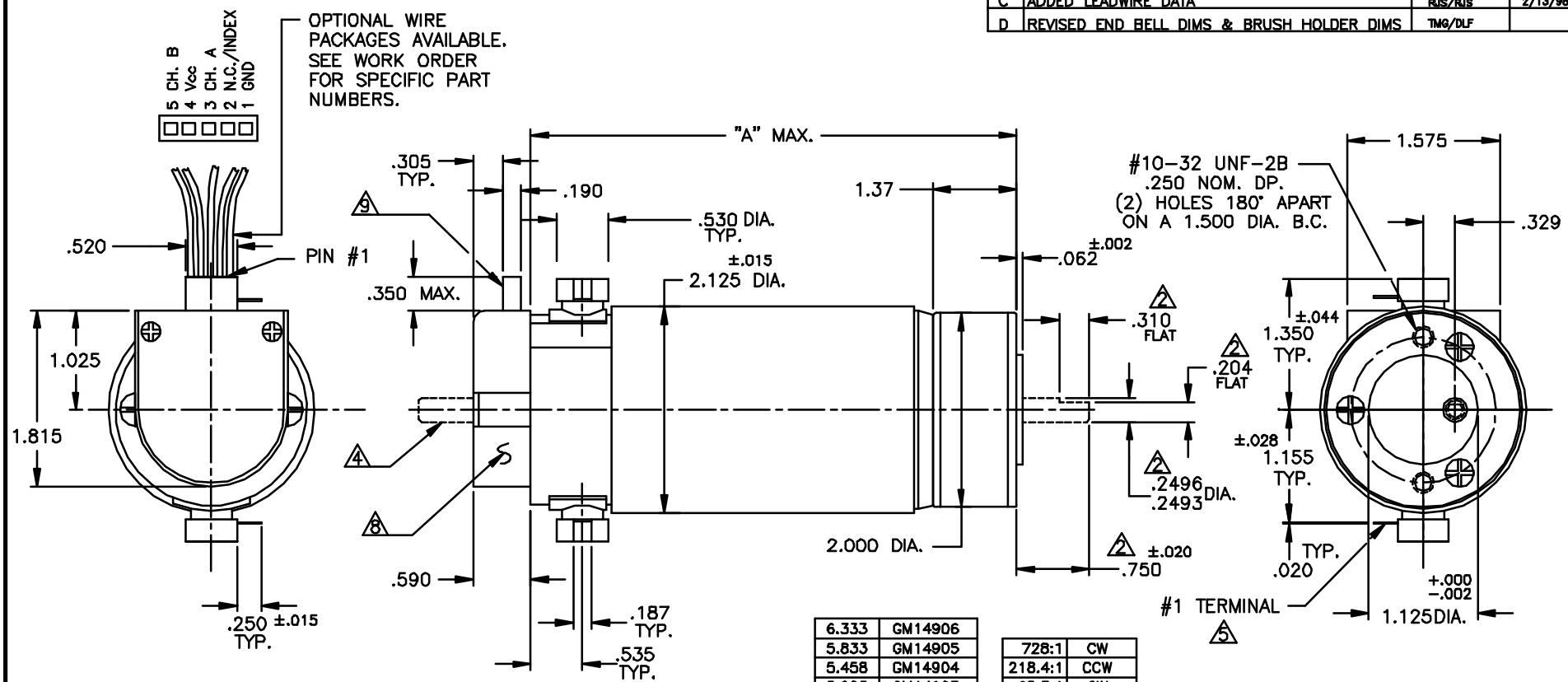




All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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

REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
B	REDRAWN & REVISED	DCS/DCS	11/10/95	JRM
C	ADDED LEADWIRE DATA	RJS/RJS	2/13/98	JRM
D	REVISED END BELL DIMS & BRUSH HOLDER DIMS	TMG/DLF		



"A"	MODEL NO.
6.333	GM14906
5.833	GM14905
5.458	GM14904
5.083	GM14903
4.583	GM14902
4.333	GM14901

RATIO	SHAFT ROTATION *
726:1	CW
218.4:1	CCW
65.5:1	CW
19.7:1	CCW
5.9:1	CW

NOTES:

* 1. SHAFT ROTATION IS SHOWN WHILE VIEWING THE MOUNTING END, WITH POSITIVE VOLTAGE (+) APPLIED TO THE #1 TERMINAL.

2. ALL OUTPUT SHAFT DIMENSIONS NOTED ARE STANDARD (10-535). FOR ALL OTHER SHAFT CONFIGURATIONS, REFER TO DATA SHEET FOR SHAFT PART NUMBERS.

3. FOR MOTOR SHAFT CONFIGURATION, SEE DATA SHEET.

4. OPTIONAL SHAFT EXTENSION AVAILABLE. REFER TO DATA SHEET FOR SPECIFICS.

5. TERMINALS WILL MATE WITH '187' SERIES AMP INC. OR EQUIV. PUSH-ON RECEPTACLE.

6. MOTOR BALL BEARINGS: PRELOAD PER P-107.

7. OUTPUT SHAFT ENDPLAY: .020 MAX.

8. ENCLOSED IS A H.P. HEDS-91X0 OPTICAL ENCODER MODULE. SEE DATA SHEET FOR PART NUMBERS.

9. MOLEX CENTER CRIMP TERMINAL HOUSING, (2695 SERIES), WILL ACCEPT MOLEX MATING TERMINALS (2759).

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\314

DRAFTED BY	DCS	DATE 11/9/95
ENGINEERED BY	DCS	11/9/95
APPROVED BY	JRM	XX/XX/97

NEXT ASSY:

USED ON.

PITTMAN
a Penn Engineering Company
308 Industrial Blvd • Harleysville, PA 19438

TITLE:
OUTLINE AND MOUNTING DIMENSIONS
GM149XX STANDARD W/H.P. 91X0 ENC.

DWG. NO. B- 150-314

REV. D

SCALE: D.N.S.

SHEET