GM9236S020

Lo-Cog® DC Gearmotor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S_{NL}	rpm (rad/s)	236	(24.7)
Continuous Torque (Max.)[1]	T_C	oz-in (N-m)	153	(1.1E+00)
Peak Torque (Stall)[2]	T_{PK}	oz-in (N-m)	860	(6.1E+00)
Weight	W_M	oz (g)	20.3	(576)
Motor Data				
Torque Constant	K_T	oz-in/A (N-m/A)	6.49	(4.58E-02)
Back-EMF Constant	K_E	V/krpm (V/rad/s)	4.80	(4.58E-02)
Resistance	R_T	Ω	2.49	
Inductance	L	mH	2.63	
No-Load Current	I_{NL}	A	0.16	
Peak Current (Stall)[2]	I_P	A	9.64	
Motor Constant	K_M	oz-in/√W (N-m/√W)	4.11	(2.90E-02)
Friction Torque	T_F	oz-in (N-m)	0.80	(5.6E-03)
Rotor Inertia	J_M	oz-in-s^2 (kg-m^2)	1.0E-03	(7.1E-06)
Electrical Time Constant	τ_E	ms	1.06	
Mechanical Time Constant	τ_M	ms	8.5	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.053	(3.5E-06)
Damping Constant	K_D	oz-in/krpm (N-m-s)	12.5	(8.5E-04)
Maximum Winding Temperature	θ_{MAX}	ºF (ºC)	311	(155)
Thermal Impedance	R_{TH}	ºF/watt (ºC/watt)	56.3	(13.5)
Thermal Time Constant	τ_{TH}	min	13.5	
Gearbox Data				
Reduction Ratio			19.7	
Efficiency[3]			0.84	
Maximum Allowable Torque		oz-in (N-m)	500	(3.53)
Encoder Data				

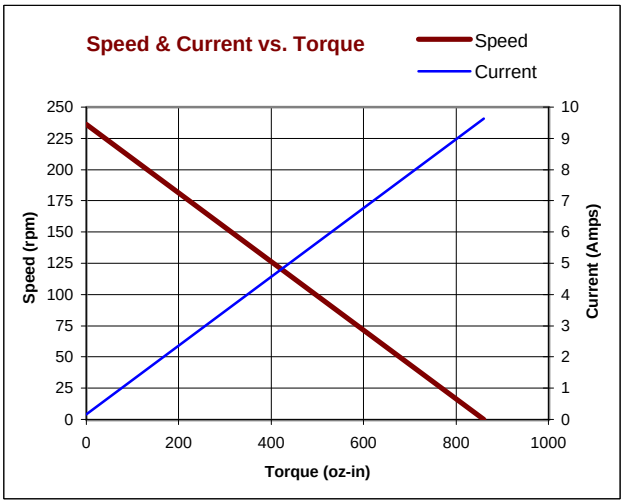
1 - Specified at max. winding temperature at 25ºC ambient without heat sink. 2 - Theoretical values supplied for reference only.
3 - Effective gearbox efficiency for this unit improved by use of ball bearings.

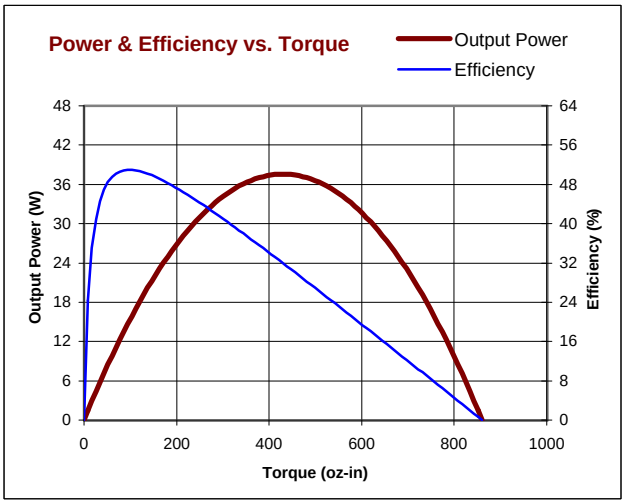
Included Features

2-Pole Stator
Ceramic Magnets
Heavy-Guage Steel Housing
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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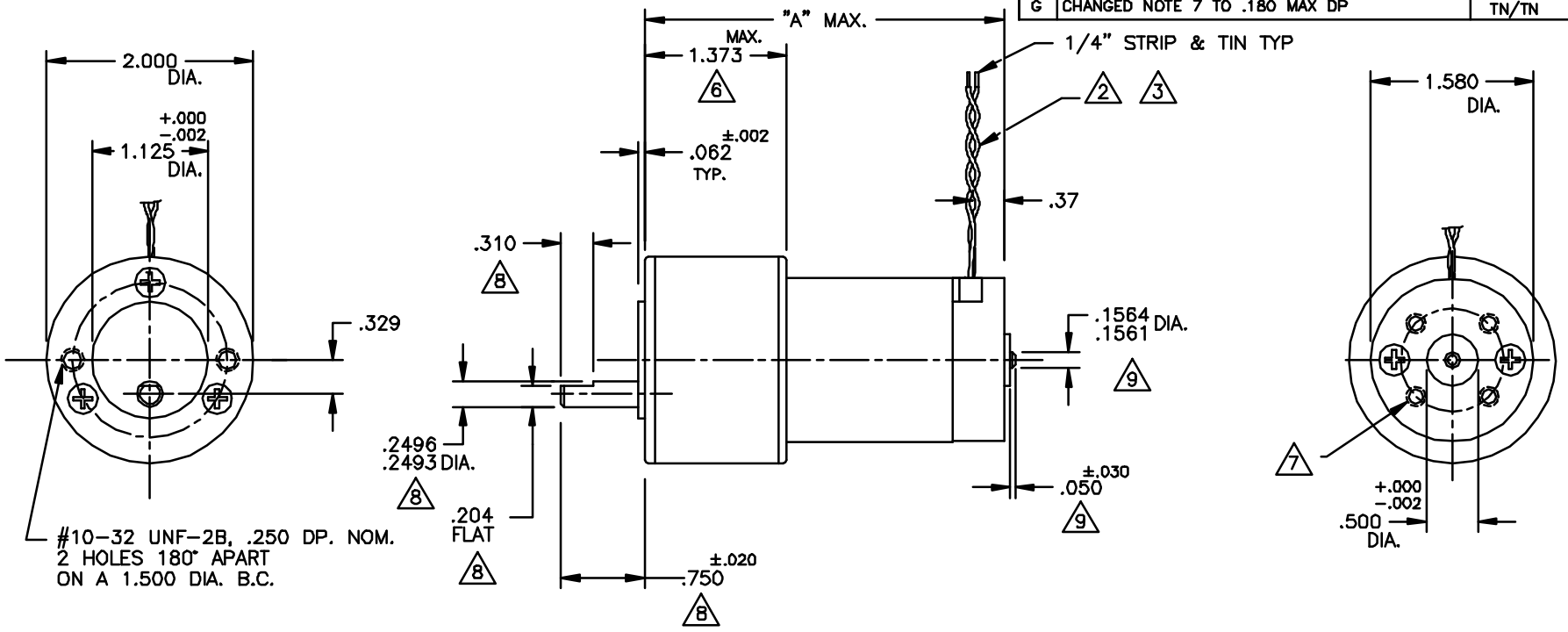
UNCONTROLLED

REVISIONS

LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
E	REVISED NOTE 1	RJS/RJS	10/22/97	JRM
F	1/4" STRIP & TIN WAS "STRIP"	KUH/KUH	5/12/98	JRM
G	CHANGED NOTE 7 TO .180 MAX DP	TN/TN		



NOTES:

1. SHAFT ROTATION IS SHOWN WHILE VIEWING OUTPUT SHAFT WITH POSITIVE VOLTAGE (+) APPLIED TO RED LEAD
2. LEADS ARE 22 AWG (7x30), PVC INSULATION, UL STYLE 1569/1007. ONE LEAD IS RED, ONE BLACK
3. STANDARD LEAD LENGTH IS 18" ±1/2"
4. ENDPLAY .015 MAX. ON MOTOR SHAFT, .020 MAX. ON OUTPUT SHAFT.
5. LIMIT TORQUE ON GEARBOX TO 175 oz.in., STANDARD (STD.)GEARING
   LIMIT TORQUE ON GEARBOX TO 300 oz.in., HIGH TORQUE (H-T) GEARING
   LIMIT TORQUE ON GEARBOX TO 500 oz.in., WIDE FACE (WF) GEARING
6. FOR WIDE FACE RATIOS 728/1419:1 SEE 150-408-2
   FOR 2426.9/4732.5:1 RATIOS (ALL GEAR TYPES) SEE 150-408-2
7. OPTIONAL REAR MOUNTING PATTERN AVAILABLE, #6-32 UNC-2B .180 DP. MAX., 4 HOLES ON A 1.000 DIA. B.C..
8. ALL SHAFT DIMENSIONS NOTED ARE STANDARD (10-535); FOR ALL OTHER SHAFT CONFIGURATIONS REFER TO DATA SHEET FOR PART NUMBERS.
9. OPTIONAL REAR SHAFT EXTENSIONS AVAILABLE. FOR MOTOR SHAFT CONFIG. SEE DATA SHEET.

GEARING	GEAR RATIO	DIRECTION
6	728/1419:1	CW
ALL TYPES	218.4/426:1	CCW
ALL TYPES	65.5/127.7:1	CW
ALL TYPES	19.7/38.3:1	CCW
ALL TYPES	5.9/11.5:1	CW

MODEL NO.	"A" MAX.
GM92X6	4.326
GM92X5	3.976
GM92X4	3.676
GM92X3	3.476
GM92X2	3.101

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTION ±1/64 DECIMAL .X ±.015 .XX ±.010 .XXX± .005 ANGLES ±1°
BREAK ALL SHARP EDGES

MATERIAL:

FINISH:

FILE: 150/408

DRAFTED BY	RJS	DATE 3/22/96
ENGINEERED BY	DLF	3/22/96
APPROVED BY	JRM	3/22/96

NEXT ASSY:

USED ON.

PITTMAN

TITLE: OUTLINE AND MOUNTING DIMENSIONS GM9200 STANDARD

DWG. NO. B- 150-408 REV. G

SCALE: DNS SHEET 1 OF 1