



6313S003-R1

Lo-Cog® DC Motor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	12	
No-Load Speed	S _{NL}	rpm (rad/s)	7,780	(815)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	1.3	(9.3E-03)
Peak Torque (Stall) ²	T _{PK}	oz-in (N-m)	5.6	(3.9E-02)
Weight	W _M	oz (g)	2.1	(60)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	2.02	(1.43E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	1.49	(1.43E-02)
Resistance	R _T	Ω	4.19	
Inductance	L	mH	2.76	
No-Load Current	I _{NL}	A	0.09	
Peak Current (Stall) ²	I _P	A	2.86	
Motor Constant	K _M	oz-in/√W (N-m/√W)	0.98	(6.9E-03)
Friction Torque	T _F	oz-in (N-m)	0.19	(1.3E-03)
Rotor Inertia	J _M	oz-in-s ² (kg-m ²)	9.57E-05	(6.8E-07)
Electrical Time Constant	τ _E	ms	0.65	
Mechanical Time Constant	τ _M	ms	14.0	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.0089	(6.0E-07)
Damping Constant	K _D	oz-in/krpm (N-m-s)	0.71	(4.8E-05)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	266	(130)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	87.4	(30.8)
Thermal Time Constant	τ _{TH}	min	11.3	
Gearbox Data				
Encoder Data				

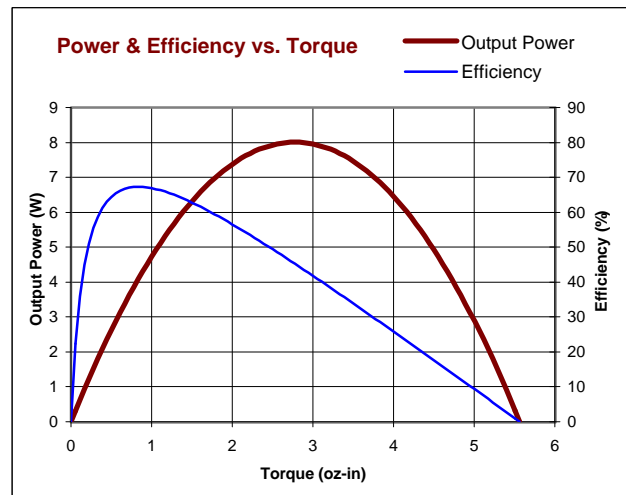
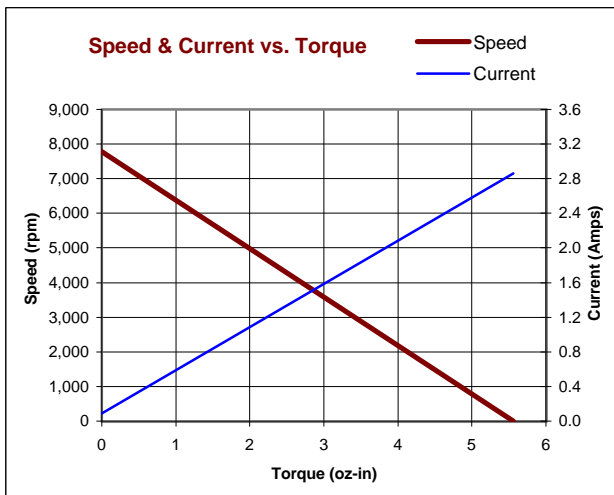
Included Features

- 2-Pole Stator
- Neodymium Magnets
- Heavy-Gauge Steel Housing
- 5-Slot Armature
- Silicon Steel Laminations
- Stainless Steel Shaft
- Copper-Graphite Brushes
- Diamond Turned Commutator
- Motor Sleeve Bearings

Customization Options

- Alternate Winding
- Sleeve or Ball Bearings
- Modified Output Shaft
- Custom Cable Assembly
- Special Brushes
- EMI/RFI Suppression
- Spur or Planetary Gearbox
- Special Lubricant
- Optional Encoder

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

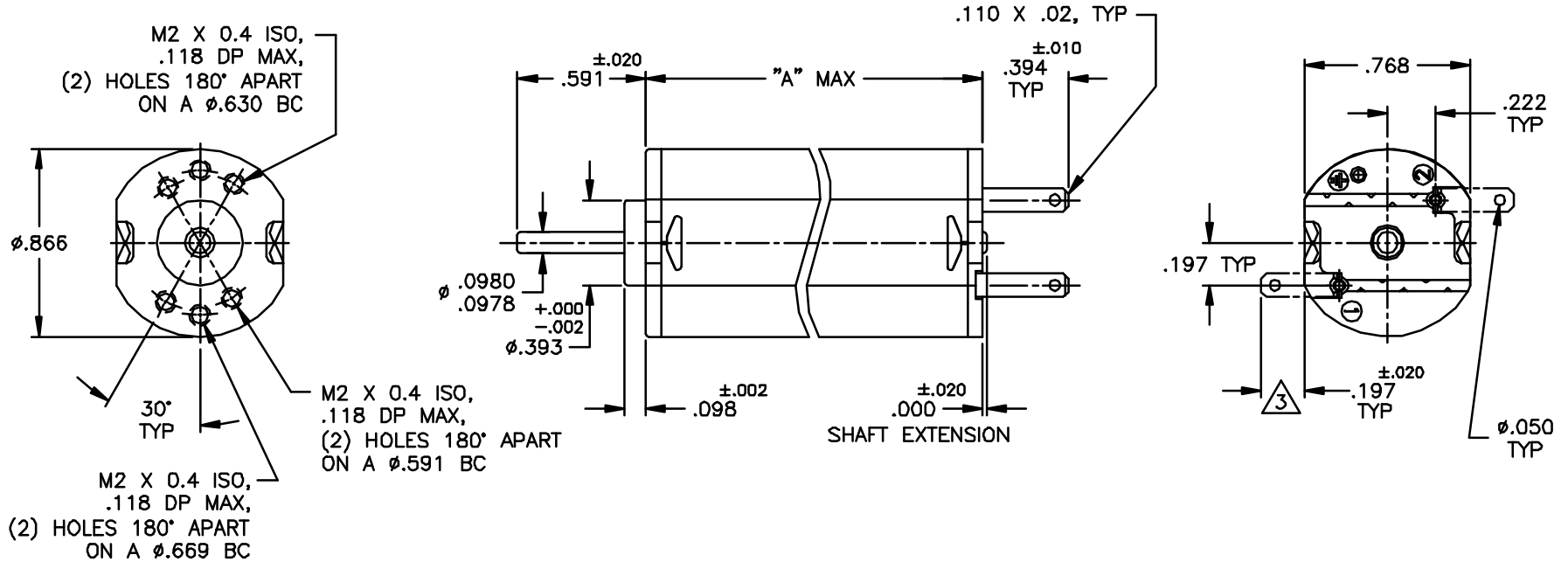


All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

© 2001 Pittman.

NOTICE: CONFIDENTIAL PROPRIETARY INFORMATION THIS PRINT CONTAINS IDEAS, INFORMATION, AND INTELLECTUAL PROPERTY WHICH ARE THE EXCLUSIVE PROPERTY OF PITTMAN, DIVISION OF PENN ENGINEERING & MANUFACTURING CORP. RECIPIENT MUST KEEP THE INFORMATION DISCLOSED HEREIN CONFIDENTIAL AND RECIPIENT IS EXPRESSLY PROHIBITED FROM COPYING OR PUBLICATION OF THIS PRINT EXCEPT TO OTHERS IN THEIR ORGANIZATION ON A NEED-TO-KNOW BASIS.

REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	CLU/CLU	8-25-99	JVM
B	MTG END EXT WAS .394±.030	CLU/CLU	10-20-99	JH
C	REMOVED "OPTIONAL" TAP CALLOUTS	CLU/CLU	12-9-99	JH
D	.015 MAX. ENDPLAY WAS .020	EWS/DLF	6-2-00	KPW
E	ADDED NOTE 4	EWS/EWS	10-6-00	KPW
F	REVISED BRUSH END VIEW	EWS/EWS		



NOTES:

- SHAFT ROTATION IS CW, WHILE VIEWING MOUNTING END WITH POSITIVE (+) VOLTAGE APPLIED TO #1 TERMINAL.
- SHAFT ENDPLAY: .015 MAX, SLEEVE BEARINGS ARE STANDARD, BALL BEARINGS OPTIONAL.
- OPTIONAL CONFIGURATION.
- ALL 22M MOTORS SHALL BE RECIEVE A STANDARD RUN-IN @ 75% OF THE RATED WINDING VOLTAGE, APPLIED FOR 4 HOURS MINIMUM, REVERSING DIRECTION EVERY ONE MINUTE, WITH RAMP-DOWN & RAMP-UP.

1.556	63X3
1.256	63X2
DIM "A"	MODEL No.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTION DECIMAL ANGLES ±1/64 ±.015 ±15° ±1/32 ±.010 ±15° ±1/16 ±.008 ±15° BREAK ALL SHARP EDGES		FILE: 150\624		
MATERIAL:		DRAFTED BY: CLU	DATE: 8-23-99	TITLE: STANDARD OUTLINE & MOUNTING DIMENSIONS 63XX, 22mm SERIES
FINISH:		ENGINEERED BY: CLU	DATE: 8-23-99	
		APPROVED BY: JVM	DATE: 8-25-99	DWG. NO. B- 150-624
		NEXT ASSY:		
		USED ON:		REV. F
				SCALE: (2x) SHEET 1 OF 1