



4443S013

Brushless DC Servo Motor

Assembly Data	Symbol	Units	Value
Reference Voltage	E	V	24
No-Load Speed	S_{NL}	rpm (rad/s)	5,860 (614)
Continuous Torque (Max.) ¹	T_C	oz-in (N-m)	19 (1.3E-01)
Peak Torque (Stall) ²	T_{PK}	oz-in (N-m)	149 (1.1E+00)
Weight	W_M	oz (g)	21 (595)
Motor Data			
Torque Constant	K_T	oz-in/A (N-m/A)	5.55 (3.92E-02)
Back-EMF Constant	K_E	V/krpm (V/rad/s)	4.10 (3.92E-02)
Resistance	R_T	Ω	0.89
Inductance	L	mH	0.19
No-Load Current	I_{NL}	A	0.03
Peak Current (Stall) ²	I_P	A	27.0
Motor Constant ²	K_M	oz-in/ \sqrt{W} (N-m/ \sqrt{W})	5.86 (4.14E-02)
Friction Torque	T_F	oz-in (N-m)	0.15 (1.1E-03)
Rotor Inertia	J_M	oz-in-s ² (kg-m ²)	8.6E-04 (6.1E-06)
Electrical Time Constant	τ_E	ms	0.21
Mechanical Time Constant	τ_M	ms	3.5
Viscous Damping	D	oz-in/krpm (N-m-s)	0.046 (3.1E-06)
Damping Constant	K_D	oz-in/krpm (N-m-s)	25.4 (1.7E-03)
Maximum Winding Temperature	θ_{MAX}	°F (°C)	266 (130)
Thermal Impedance	R_{TH}	°F/watt (°C/watt)	42 (5.4)
Thermal Time Constant	τ_{TH}	min	26.7
Gearbox Data			
Encoder Data			
Channels			3
Resolution		CPR	500

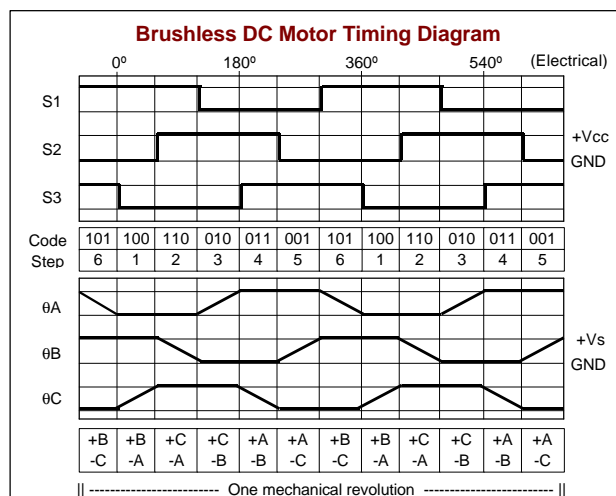
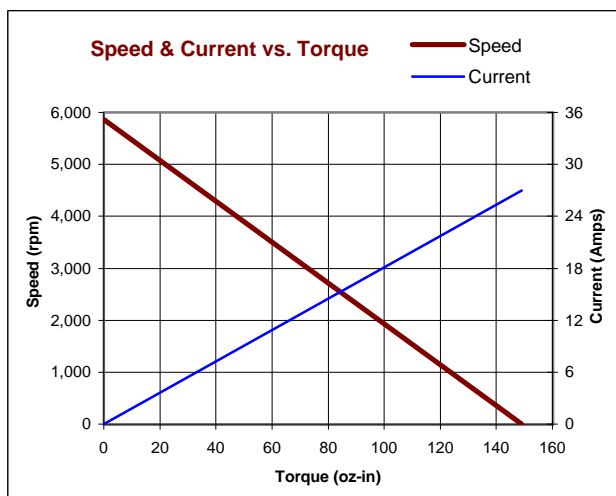
1 - Specified at max. winding temperature at 25°C ambient without heat sink. 2 - Theoretical values supplied for reference only.

Included Features

4-Pole Rotor
Neodymium Magnets
3-Phase Slotless Stator
Rugged Metal Housings
Stainless Steel Shaft
Ball Bearings
Hall Sensors

Customization Options

Alternate Winding
Modified Output Shaft
Custom Cable Assembly
Spur or Planetary Gearbox
Optional Encoder
Fail-Safe Brake



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

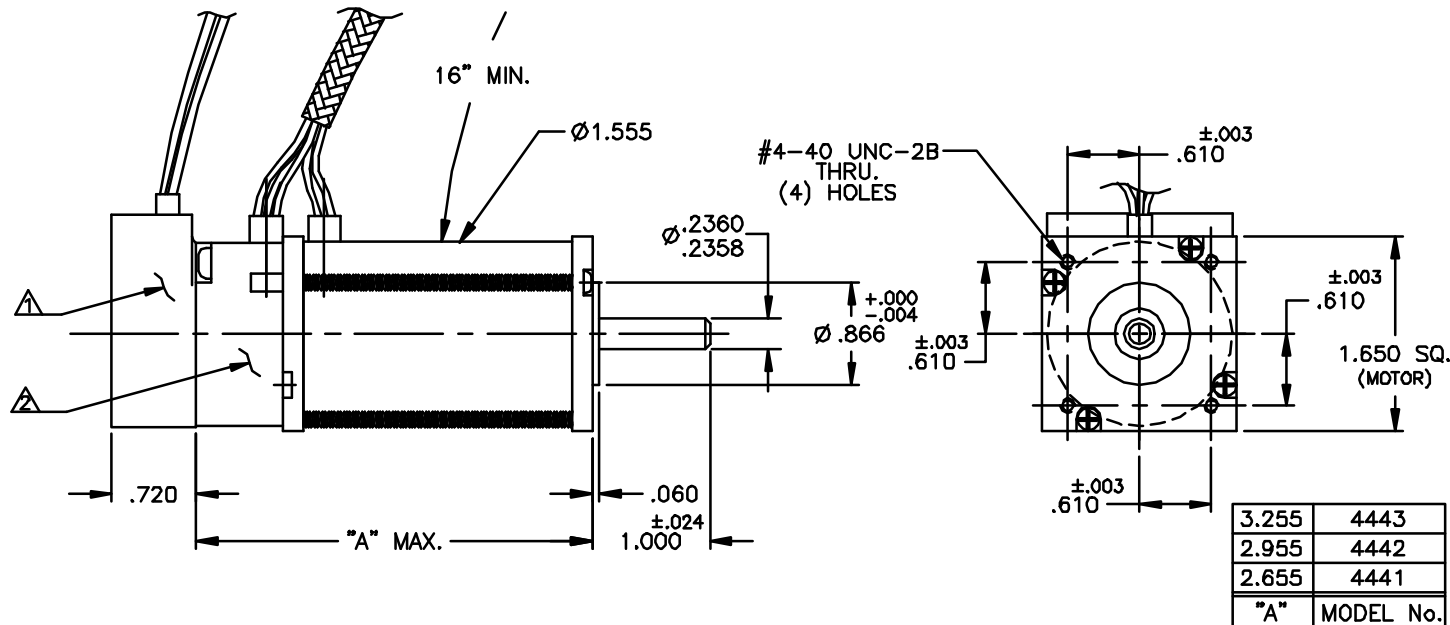
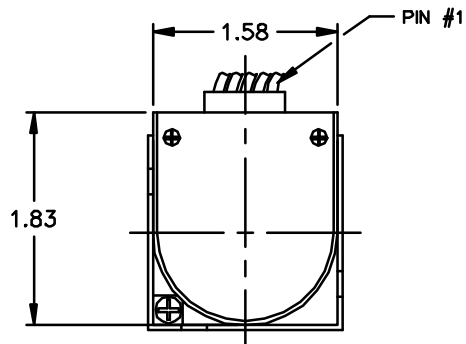
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ENCODER P/N CONNECTION CHART		
PIN No.	CONNECTION	COLOR
1	GROUND	BLACK
2	NC/INDEX	GREEN
3	CHANNEL A	YELLOW
4	V _{cc}	RED
5	CHANNEL B	BLUE

LEADWIRE &
CONN. ASSY

LEAD FUNCTIONS		SENSOR		MOTOR	
3 PHASE	BLK(-) VIO(+)	GRY(1) BLU(2) WHT(3)	BRN(A) RED(B) ORG(C)		
4 PHASE	BLK(-) VIO(+)	GRY(1) BLU(2)	BRN(A) RED(B) ORG(C) YEL(D)		





3.255	4443
2.955	4442
2.655	4441
"A"	MODEL No.

NOTE(S):

1. ENCLOSED IS A HEWLETT PACKARD OPTICAL ENCODER MODEL HEDS-91X0.
2. ENCLOSED IS A HALL SENSE ASSEMBLY.
3. BALL BEARINGS ARE PRELOADED PER P-107BL.

REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	DCS/DCS	3/10/99	RGR
B	-.004 WAS -.002	TJK/TJK		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTION DECIMAL ANGLES ±1/64 .XX ±.015 .XX ±.010 JXX ±.005 BREAK ALL SHARP EDGES			FILE: 150/605		 PITTMAN 7700 W. 10TH AVE 300 CHANDLER, CHANDLER, AZ 85008					
MATERIAL:	FINISH:	DRAFTED BY DCS		DATE 3/4/99		TITLE: OUTLINE & MOUNTING DIMENSIONS STD. 40MM GOLD NEMA W91X0 & LEADS DWG. NO. B- 150-605 SCALE: NONE SHEET 1			REV. B	
		ENGINEERED BY DCS		3/4/99						
		APPROVED BY RGR		3/10/99						
NEXT ASSY:		USED ON:								