



4442S011

Brushless DC Servo Motor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	19.1	
No-Load Speed	S _{NL}	rpm (rad/s)	5,925	(620)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	14	(1.0E-01)
Peak Torque (Stall) ²	T _{PK}	oz-in (N-m)	100	(7.1E-01)
Weight	W _M	oz (g)	19	(539)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	4.33	(3.06E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	3.20	(3.06E-02)
Resistance	R _T	Ω	0.82	
Inductance	L	mH	0.16	
No-Load Current	I _{NL}	A	0.04	
Peak Current (Stall) ²	I _P	A	23.3	
Motor Constant ²	K _M	oz-in/√W (N-m/√W)	4.77	(3.37E-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)	8.0E-04	(5.7E-06)
Electrical Time Constant	τ _E	ms	0.20	
Mechanical Time Constant	τ _M	ms	5.0	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.044	(3.0E-06)
Damping Constant	K _D	oz-in/krpm (N-m-s)	16.8	(1.1E-03)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	266	(130)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	44	(6.4)
Thermal Time Constant	τ _{TH}	min	25.6	
Gearbox Data				
Encoder Data				
Channels			3	
Resolution		CPR	500	

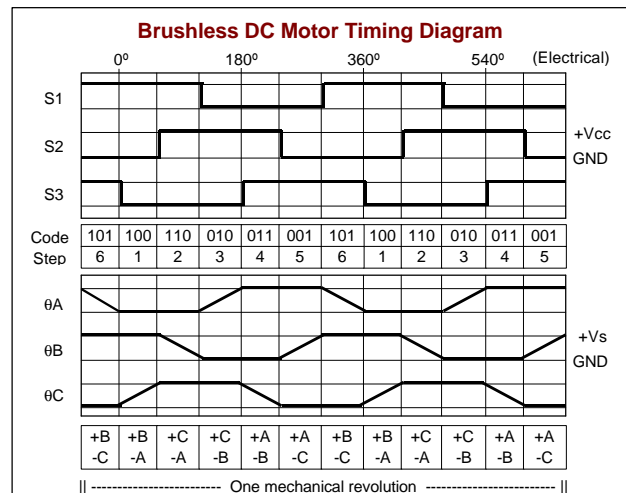
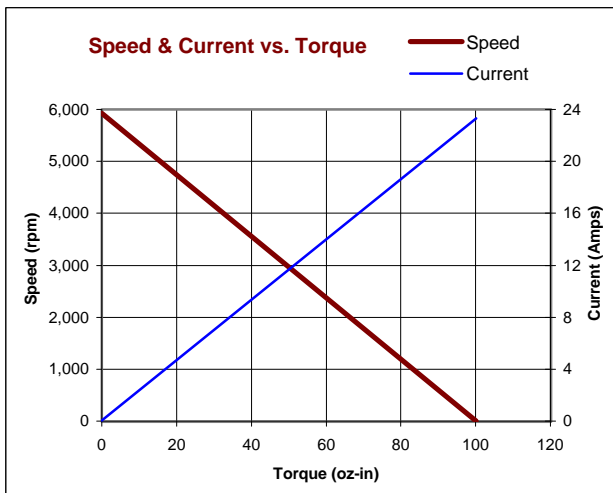
1 - Specified at max. winding temperature at 25°C ambient without heat sink. 2 - Theoretical values supplied for reference only.

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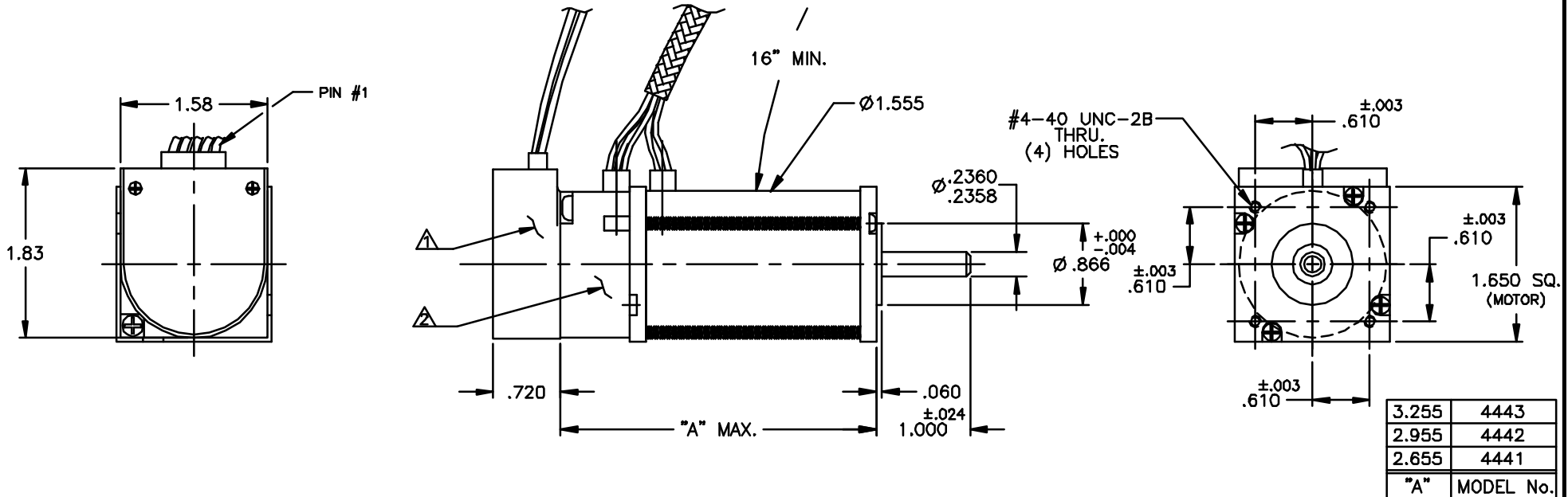
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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	DCS/DCS	3/10/99	RGR
B	-.004 WAS -.002	TJK/TJK		

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

LEADWIRE & CONN. ASSY

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



NOTE(S):

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

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTION DECIMAL ANGLES ±1/64 .015 ±1° XX ±010 XXX±005 BREAK ALL SHARP EDGES		FILE: 150/605		TITLE: OUTLINE & MOUNTING DIMENSIONS STD. 40MM GOLD NEMA W91X0 & LEADS		
MATERIAL:		DRAFTED BY: DCS		DATE: 3/4/99	DWG. NO. B-	REV. B
FINISH:		ENGINEERED BY: DCS		DATE: 3/4/99	SCALE: NONE SHEET 1	
		APPROVED BY: RGR		DATE: 3/10/99		