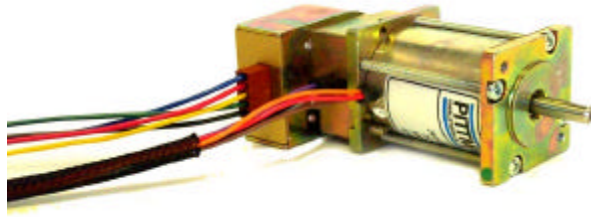


3441S001-R3

Brushless DC Servo Motor



Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	12	
No-Load Speed	S _{NL}	rpm (rad/s)	7,150	(749)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	4.1	(2.9E-02)
Peak Torque (Stall) ²	T _{PK}	oz-in (N-m)	13	(9.4E-02)
Weight	W _M	oz (g)	9	(255)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	2.24	(1.58E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	1.66	(1.58E-02)
Resistance	R _T	Ω	1.98	
Inductance	L	mH	0.18	
No-Load Current	I _{NL}	A	0.11	
Peak Current (Stall) ²	I _P	A	6.06	
Motor Constant ²	K _M	oz-in/√W (N-m/√W)	1.56	(1.10E-02)
Friction Torque	T _F	oz-in (N-m)	0.14	(9.9E-04)
Rotor Inertia	J _M	oz-in-s ² (kg-m ²)	1.4E-04	(9.9E-07)
Electrical Time Constant	τ _E	ms	0.09	
Mechanical Time Constant	τ _M	ms	7.9	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.016	(1.1E-06)
Damping Constant	K _D	oz-in/krpm (N-m-s)	1.9	(1.2E-04)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	266	(130)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	47	(8.1)
Thermal Time Constant	τ _{TH}	min	13.5	
Gearbox Data				
Encoder Data				
Channels			3	
Resolution		CPR	500	

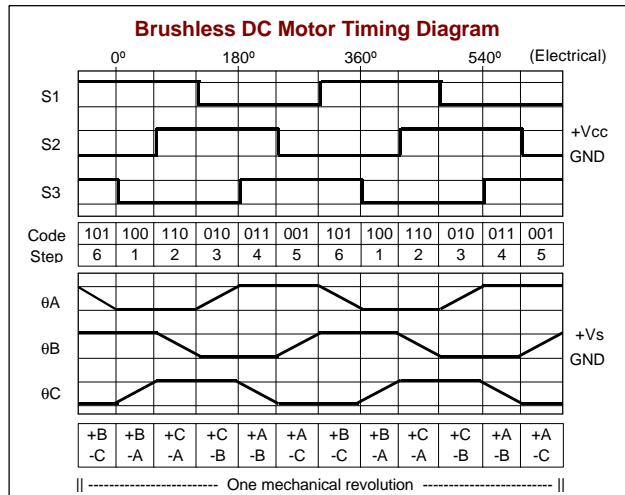
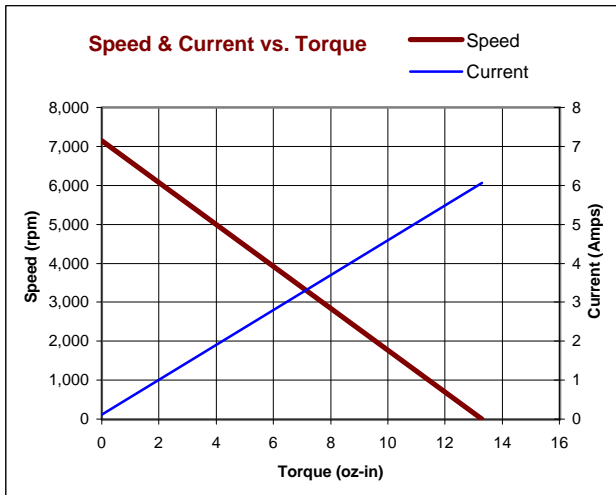
Included Features

- 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

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.

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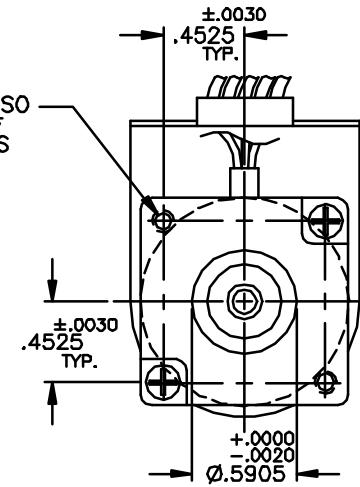
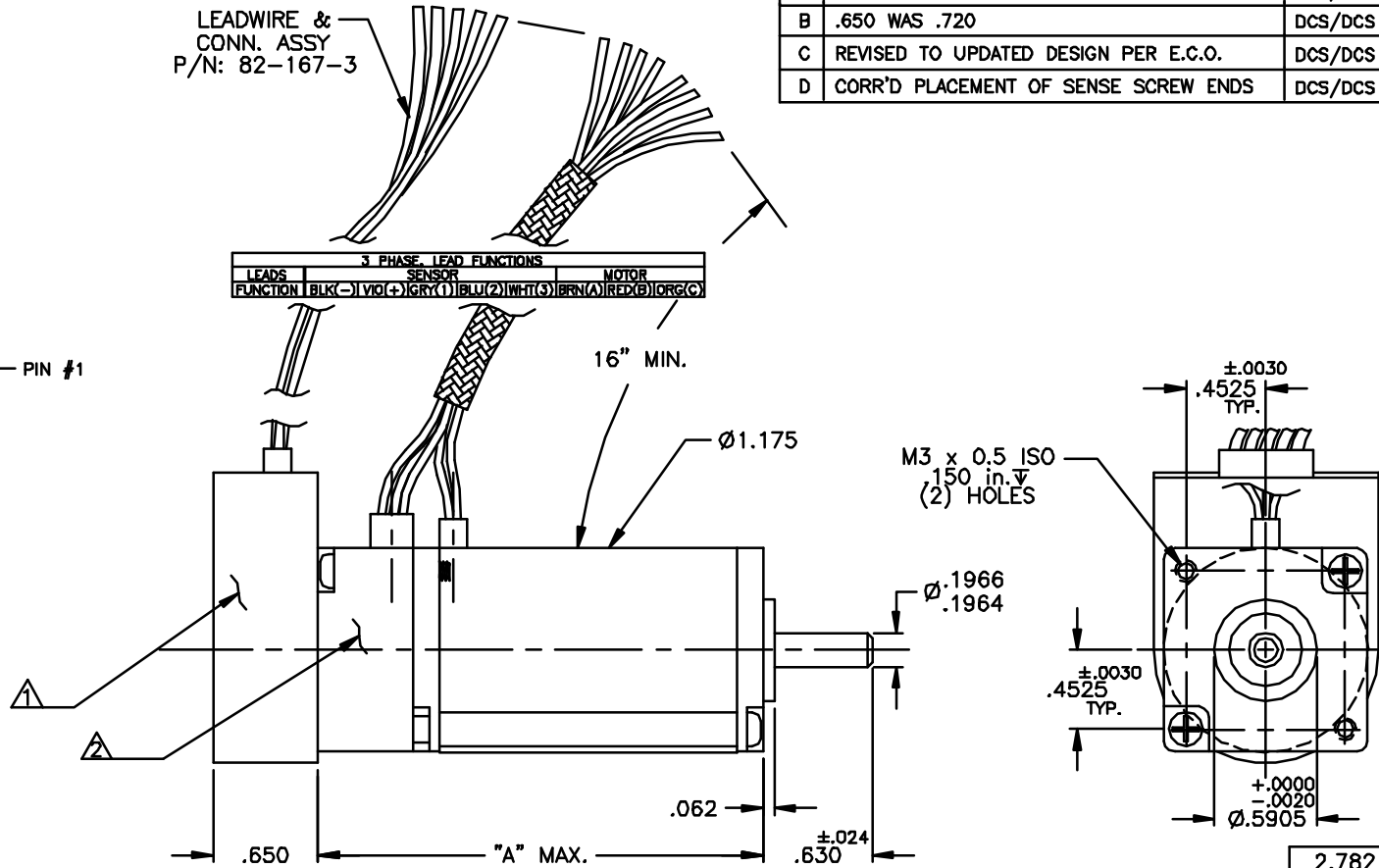
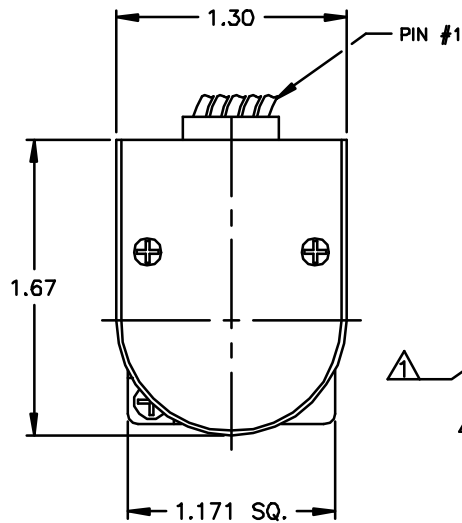
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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	DCS/DCS	12/2/96	S.D.
B	.650 WAS .720	DCS/DCS	12/30/96	S.D.
C	REVISED TO UPDATED DESIGN PER E.C.O.	DCS/DCS	9/12/97	JVM
D	CORR'D PLACEMENT OF SENSE SCREW ENDS	DCS/DCS		

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

LEADWIRE & CONN. ASSY
P/N: 82-167-3

3 PHASE LEAD FUNCTIONS		
LEADS	SENSOR	MOTOR
FUNCTION	BLK(-) VIO(+) GRN(1)	BLU(2) WHT(3) BRN(A) RED(B) ORG(C)



2.782	3442
2.382	3441
"A"	MODEL No.

NOTE(S):

- 1. ENCLOSED IS A HEWLETT PACKARD OPTICAL ENCODER MODEL HEDS-9140.
- 2. ENCLOSED IS A 3 PHASE (LO-TEMP) HALL SENSE ASSEMBLY.
- 3. BALL BEARINGS ARE PRELOADED SO THAT 4.0 LBS. AXIAL FORCE SHALL YIELD .002 TO .008 AXIAL SHAFT MOVEMENT.

<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</small> FRACTION DECIMAL ANGLES ±1/64 ±.015 ±1° <small>BREAK ALL SHARP EDGES</small>	FILE:	150\528		
	DRAFTED BY:	DCS		DATE: 11/28/96
	ENGINEERED BY:	DCS		11/28/96
	APPROVED BY:	S.D.		12/2/96
MATERIAL:	NEXT ASSY:		TITLE: OUTLINE & MOUNTING DIMENSIONS STD 30MM GOLD W/9140	
FINISH:	USED ON:		DWG. NO. B-150-528	
			REV. D	
			SCALE: NONE SHEET 1	