

N2341S002

Brushless DC Servo Motor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S _{NL}	rpm (rad/s)	7,353	(770)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	16	(1.1E-01)
Peak Torque (Stall) ^{1,2}	T _{PK}	oz-in (N-m)	32	(2.3E-01)
Weight	W _M	oz (g)	16	(439)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	4.32	(3.05E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	3.20	(3.05E-02)
Resistance	R _T	Ω	1.05	
Inductance	L	mH	1.95	
No-Load Current	I _{NL}	A	0.10	
Peak Current (Stall) ^{1,2}	I _P	A	7.5	
Motor Constant ^{1,2}	K _M	oz-in/√W (N-m/√W)	3.50	(2.47E-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)	1.2E-03	(8.5E-06)
Electrical Time Constant	τ _E	ms	1.85	
Mechanical Time Constant	τ _M	ms	13.5	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.15	(9.8E-06)
Damping Constant	K _D	oz-in/krpm (N-m-s)	0.013	(8.8E-07)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	266	(130)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	41	(4.9)
Thermal Time Constant	τ _{TH}	min	13.0	
Gearbox Data				
Encoder Data				
Channels			3	
Resolution		CPR	1000	

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

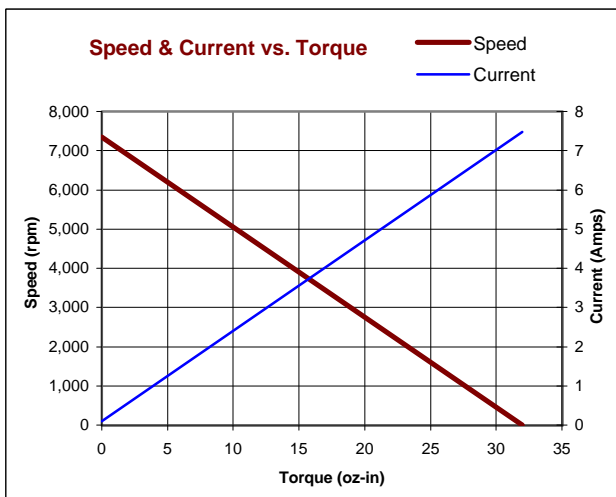
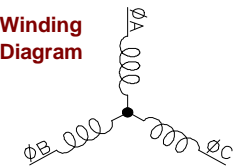
Included Features

- 4-Pole Rotor
- Neodymium Magnets
- 3-Phase Slotted Stator
- 6-Slot Laminations
- Stainless Steel Shaft
- NEMA 23 Mounting
- Ball Bearings
- Hall Sensors

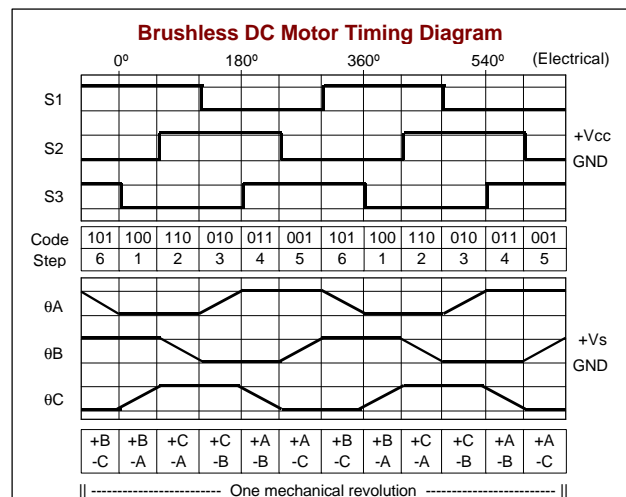
Customization Options

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

Winding Diagram



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



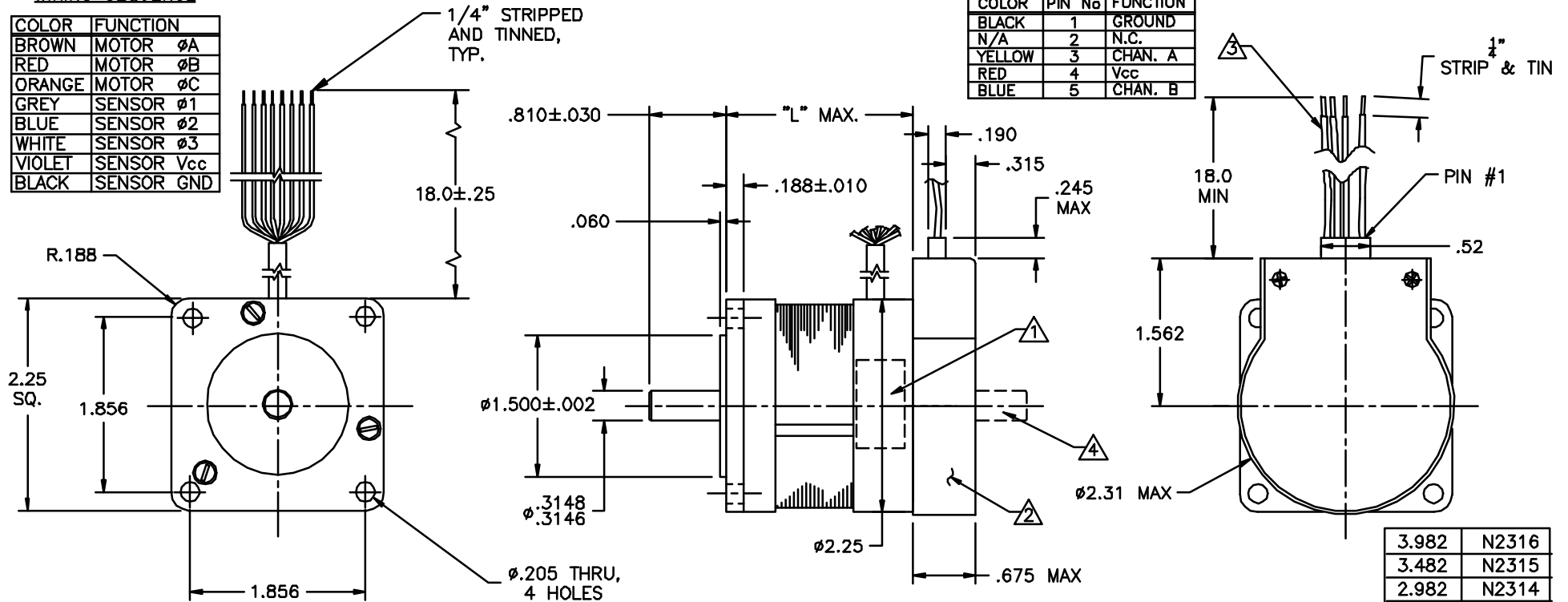
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REVISIONS				
LTR	DESCRIPTION	DRFT/ENGR	DATE	APPR
A	PRODUCTION RELEASE	KJP		

WIRING SEQUENCE

COLOR	FUNCTION
BROWN	MOTOR ϕ A
RED	MOTOR ϕ B
ORANGE	MOTOR ϕ C
GREY	SENSOR ϕ 1
BLUE	SENSOR ϕ 2
WHITE	SENSOR ϕ 3
VIOLET	SENSOR Vcc
BLACK	SENSOR GND

COLOR	PIN No	FUNCTION
BLACK	1	GROUND
N/A	2	N.C.
YELLOW	3	CHAN. A
RED	4	Vcc
BLUE	5	CHAN. B



3.982	N2316
3.482	N2315
2.982	N2314
2.482	N2313
1.982	N2312
1.532	N2311
"L"	MOTOR

- NOTES:
- 1 UNITS LABELED AS FOLLOWS WITH LABEL PLACED ON SIDE OF REAR ENDBELL. ROTATIONAL ORIENTATION VARIABLE.
MODEL No.
LOT No.
DATE CODE
 - 2 ENCLOSED IS A H.P. HEDS-90X0 OPTICAL ENCODER MODULE.
 - 3 OPTIONAL LEAD WIRE PACKAGE IS AVAILABLE, P/N 82-167-□ & 82-65-□
REFER TO DATA SHEET FOR PART NUMBERS.
 - 4 OPTIONAL REAR SHAFT EXTENSION AVAILABLE, .3146/.3148 DIA.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTION DECIMAL ANGLES $\pm 1/84$ $\pm .015$ ± 16 XX $\pm .010$ XXX $\pm .005$ BREAK ALL SHARP EDGES		FILE: 150/663		
MATERIAL:		DRAFTED BY: KJP	DATE: 7/12/00	TITLE: N2300 MOTOR OUTLINE WITH 9000 ENCODER
FINISH:		ENGINEERED BY: KJP	DATE: 7/12/00	
NEXT ASSY:		APPROVED BY:		DWG. NO. B- 150-663
USED ON:				REV. A
SCALE:			SHEET 1 OF 1	