

INB-15 MOTORS

Brushless DC Permanent Magnet Motors

EN-2400



power rating: .094 hp (70.1 W)

voltage: 27 VDC nominal

weight: 12 ounces

shaft: Precision-ground, 400 series stainless steel per ASTM A-582. Options: length, smaller diameter, flats, pinions, gears, holes (through or tapped), threaded ends and tapers. Shaft material may change depending upon options selected

magnets: Rare earth

bearings: Ball bearings are double shielded, life-lubricated

cables/leads: 8 lead wires, 18" minimum

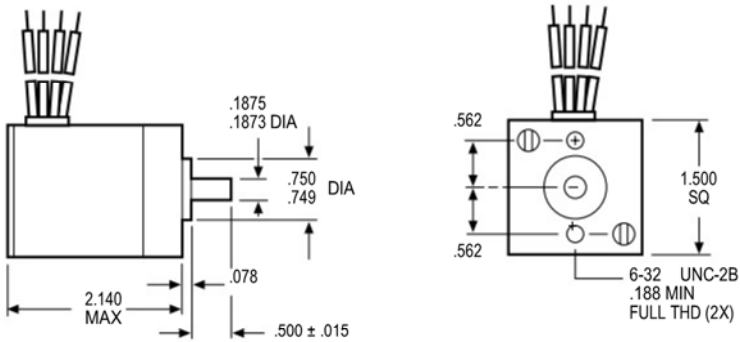
motor housing: Aluminum

sensors: Built-in open collector, latching hall effects

options available:

- Gear train
- Alternate windings
- Optical encoders

Dimensions



EN-2400

Motor Characteristics @ 25°C

ITEM	ABBREVIATION	UNITS	REFERENCE VALUE
Motor Constant (K_T / \sqrt{R})	K_m	oz. in./ \sqrt{W}	3.05
Electrical Time Constant	T_e	msec.	0.59
Mechanical Time Constant	T_m	msec.	9.2
Max Cont Input Power	P	W	119
Temperature Rise:	TPR	°C/W	3.2
Max Winding Temperature		°C	155
Rotor Inertia	J_m	oz. in. sec ²	0.0004
Number of Poles			4
Winding Connection			3 phase WYE

Assumes motor is mounted to 8.00" x 8.00" x .25" aluminum heat sink

Winding Characteristics (alternate windings available)

VOLTAGE (VDC)	SPEED no load (rpm)	TORQUE		CURRENT			CONSTANTS		STANDARD PART NUMBERS*
		max rated (oz. in.)	** theoretical stall (oz. in.)	max no load (amps)	max rated load (amps)	** theoretical stall (amps)	K_T (oz. in./amp)	R (ohms)	
27	10,500	10.00	74.00	.35	3.9	22.00	3.36	1.23	509A100-1
27	7,500	10.00	60.00	.30	2.9	13.00	4.59	2.13	509A100-2

**Because of motor losses and the variable types of commutation/drive electronics, stall currents and torques will not always be attainable
NOTE: Alternate windings (voltage, speed) are available

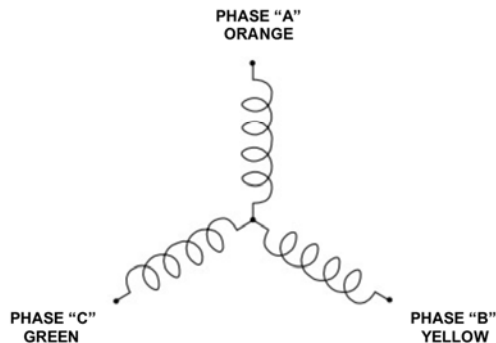
*When You Order

Units shown above are standard and may be ordered by part number. Remember to include motor winding dash number, EXAMPLE: 509A100-1

Lead Wire Designation

LEAD WIRE COLOR CODE			
LEAD	COLORS	AWG	DESCRIPTIONS
+ VDC	RED/WHITE	24	HALL SENSORS
GROUND	BLACK/WHITE	24	
HALL "A"	ORANGE/WHITE	24	
HALL "B"	YELLOW/WHITE	24	
HALL "C"	GREEN/WHITE	24	
PHASE "A"	ORANGE	20	MOTOR LEADS
PHASE "B"	YELLOW	20	
PHASE "C"	GREEN	20	

Motor Coil Connections



Commutation and Connection Diagrams

