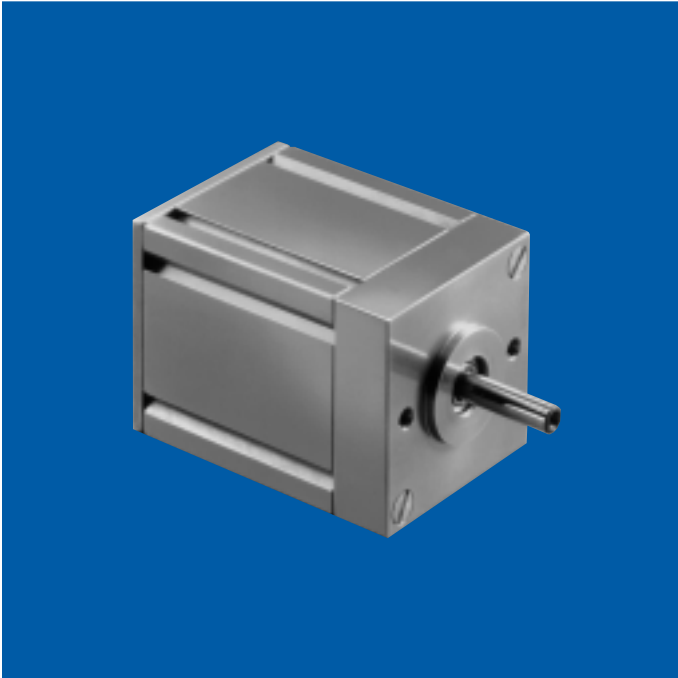


NB-15 MOTORS

Brushless DC Permanent Magnet Motors

AN-1500



peak power rating: .094 hp (70.1 W)

voltage: 27 VDC nominal

weight: 12 ounces

shaft: Precision-ground, 400 series stainless steel per ASTM A582. Options: length, smaller diameter, flats, pinions, gears, holes (through or tapped), threaded ends and tapers. Type of steel used may change depending upon variation selected

magnets: Molded samarium cobalt

bearings: Double shielded, life-lubricated for -55°C to $+85^{\circ}\text{C}$ operation

cables/leads: 8 lead wires (MIL-W-16878/4) 18" minimum covered with shielding per QQ-B-575

motor housing: Aluminum

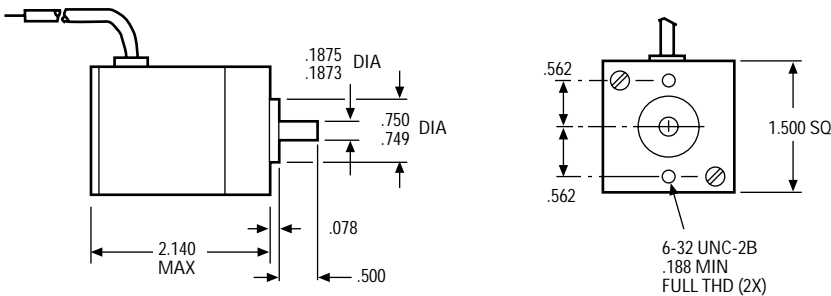
sensors: Integral hall effect

marking: Per MIL-STD-130

options available:

- Gear train

Dimensions



NOTE: Consult factory prior to preparing spec control prints. Dimensions are for reference only

Motor Characteristics

ITEM	ABBREVIATION	UNITS	REFERENCE VALUE
Motor Constant (K_t/\sqrt{R})	Km	oz. in./ \sqrt{W}	2.45
Electrical Time Constant	Te	msec.	0.59
Mechanical Time Constant	Tm	msec.	9.2
Max Cont Input Power	P	W	119
Temperature Rise†	TPR	°C/W	3.2
Max Winding Temperature		°C	180
Rotor Inertia	Jm	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

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	12,500-15,500	8.5	60.00	.35	4.40	22.00	2.75	1.23	557A103-1
27	9,000-11,000	8.5	48.00	.30	3.40	13.00	3.76	2.13	557A103-2

**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

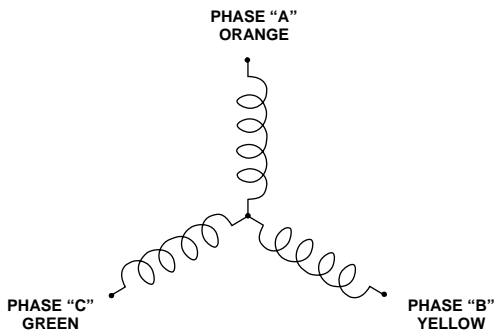
Units shown above are standard and may be ordered by part number. Remember to include motor winding dash number,

EXAMPLE: 557A103-1

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	MOTOR LEADS
PHASE "A"	ORANGE	20	
PHASE "B"	YELLOW	20	
PHASE "C"	GREEN	20	

Motor Coil Connections



Commutation and Connection Diagrams

