

WINDING CONSTANTS	UNITS	TOL	SYM	WDG A
DC RESISTANCE	OHMS	±12.5%	R	0.55
VOLTAGE @ PEAK TORQUE 80 OZ IN	VOLTS	NOMINAL	Vp	8.30
CURRENT @ PEAK TORQUE 80 OZ IN	AMPERES	NOMINAL	Ip	15.1
TORQUE SENSITIVITY	OZ IN/AMP	±10%	Kt	5.30
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	Kb	0.037
INDUCTANCE	MILLIHENRY	±30%	L	0.60

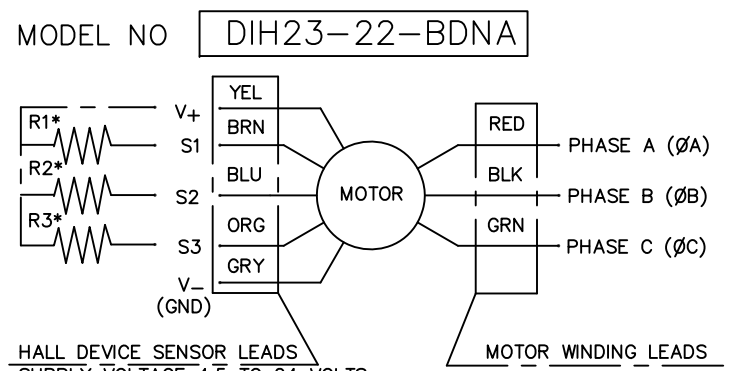
MOTOR PARAMETERS	UNITS	SYM	VALUE
PEAK TORQUE *	OZ IN	Tp	80
CONTINUOUS STALL TORQUE **	OZ IN	Tcs	30.0
MOTOR CONSTANT	OZ IN/√WATT	Km	7.2
ELECTRICAL TIME CONSTANT	MILLISECOND	Te	1.1
MECHANICAL TIME CONSTANT	MILLISECOND	Tm	5.0
POWER I²R @ TORQUE 80 OZ IN	WATTS	P	125.3
DAMPING FACTOR (ZERO IMPEDANCE)	OZ IN/(RAD/SEC)	Fo	0.361
FRICITION TORQUE	OZ IN	Tf	1.5
ROTOR INERTIA	OZ IN SEC²	Jm	1.8x10 <sup>-3</sup>
MAX ALLOWABLE SPEED	RPM	Sm	14,000
SPEED @ 20.0 OZ IN & 24.0 VDC	RPM	Sl	4,250
THEO ACC @ 80 OZ IN	RAD/SEC²	αT	4.4x10 <sup>4</sup>
THERMAL RESISTANCE ***	°C/WATT	θ th	4.0
MAX ALLOWABLE WINDING TEMP	°C	TEMP	125
PHASES/WINDING TYPE			3/Y
POLES			8
WEIGHT	OZ	Wt	18.6

NOTES: UNLESS OTHERWISE SPECIFIED

LTR	ECO NO.	DESCRIPTION	DRN	APP'D	DATE
A	98-1102	DBN(LTR) IS BDN(LTR)	RLE	HP	9/21/98
C	060137	CONVERTED TO RoHS	JWT	SH	3/16/06

\* 10 SEC @ 25°C AMBIENT TEMP  
 \*\* 25°C AMBIENT, 125° WINDING TEMP  
 \*\*\* WITH 12 X 12 X .25 THICK AL HEAT SINK

CONNECTION DIAGRAM FOR BLDC MOTOR



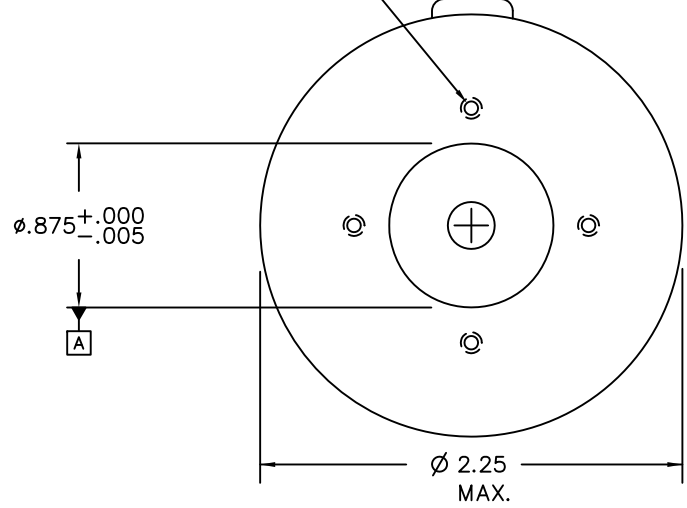
HALL DEVICE SENSOR LEADS  
 SUPPLY VOLTAGE 4.5 TO 24 VOLTS  
 MAX SINK CURRENT 50 MA  
 \* PULL UP RESISTORS REQUIRED FOR OPEN COLLECTOR SENSOR OUTPUT  
 RECOMMENDED R = 100 X V+ (r)  
 SENSOR SEQUENCE IS 120° (ELECTRICAL)

MOTOR ROTATION **C.W.** (AS VIEWED FROM MOUNTING END)  
 MOTOR ROTATION **C.C.W.** (AS VIEWED FROM MOUNTING END)

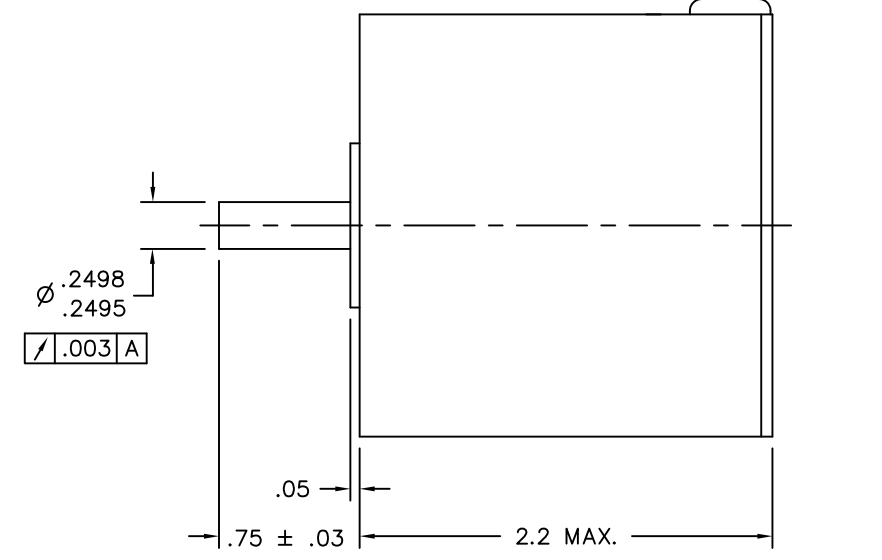
(ELECTRICAL DEGREES)	S1	S2	S3	ØA	ØB	ØC
0°	I	O	O	LO	HI	X
60°	I	O	I	X	HI	LO
120°	O	O	I	HI	X	LO
180°	O	I	I	HI	LO	X
240°	O	I	O	X	LO	HI
300°	I	I	O	LO	X	HI
360°	I	I	O	LO	X	HI

DEFINITIONS:  
 HI = TURN ON SOURCE SIDE  
 LO = TURN ON SINK SIDE  
 X = BOTH OFF  
 I = HI VOLTAGE  
 O = LO VOLTAGE

4x #4-40 UNC-2B  
 ↓.23 MAX. THD PENETRATION  
 EQ SP ON Ø 1.250 B.C.



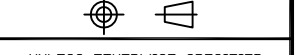
LEAD WIRE: PVC UL #1061 80°C  
 3x #20 AWG  
 5x #24 AWG  
 12.0 MIN. LONG



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THIRD ANGLE PROJECTION



UNLESS OTHERWISE SPECIFIED:  
 -ALL DIMENSIONS ARE IN INCHES  
 -BREAK SHARP EDGES .015 MAX.  
 -SURFACE ROUGHNESS √63  
 -DIMENSIONS APPLY AFTER FINISH  
 -MAX FILLET R .010

TOLERANCES:  
 DECIMALS .X ± .03  
 .XX ± .01  
 .XXX ± .005  
 ANGULAR ±0° 30'  
 DO NOT SCALE DRAWING



**BEI KIMCO MAGNETICS DIVISION**  
 VISTA, CA 92081

DRAWN <b>R. ELLIOTT</b>	DATE 3/5/98	TITLE <b>BRUSHLESS DC MOTOR</b>		
MECH CHECK <b>J. THOMPSON</b>	DATE 2/14/06	SIZE <b>B</b>	FSCM NO. 55789	DWG NO. DIH23-22-BDNA
APPD <b>HA PHAM</b>	DATE 3/5/98	SCALE 1/1	REV <b>C</b>	SHEET 1 OF 1
FILE NO. <b>X</b>				