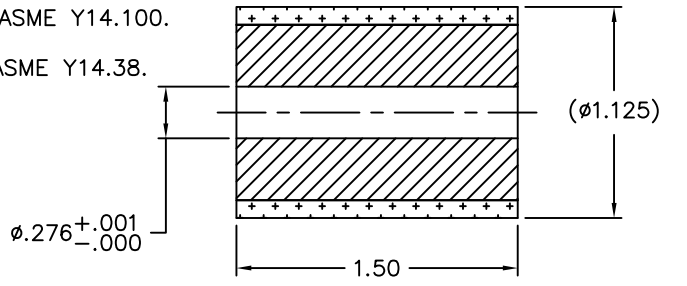


WINDING CONSTANTS *	UNITS	TOL	SYM	WDG A	WDG B	WDG C	WDG D	WDG E
DC RESISTANCE	OHMS	±12.5%	R	0.4	1.0	1.6	4.0	10.0
VOLTAGE @ T <sub>p</sub>	VOLTS	NOMINAL	V <sub>p</sub>	9.8	15.5	19.8	3.1	50.3
CURRENT @ T <sub>p</sub>	AMPERES	NOMINAL	I <sub>p</sub>	24.5	15.5	12.4	7.9	5.0
TORQUE SENSITIVITY	OZ-IN/AMP	±10%	K <sub>T</sub>	3.8	6.0	7.5	11.8	18.5
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K <sub>B</sub>	0.027	0.042	0.053	0.083	0.131
INDUCTANCE	MILLIHENRY	±30%	L	0.27	0.68	1.1	2.7	6.8

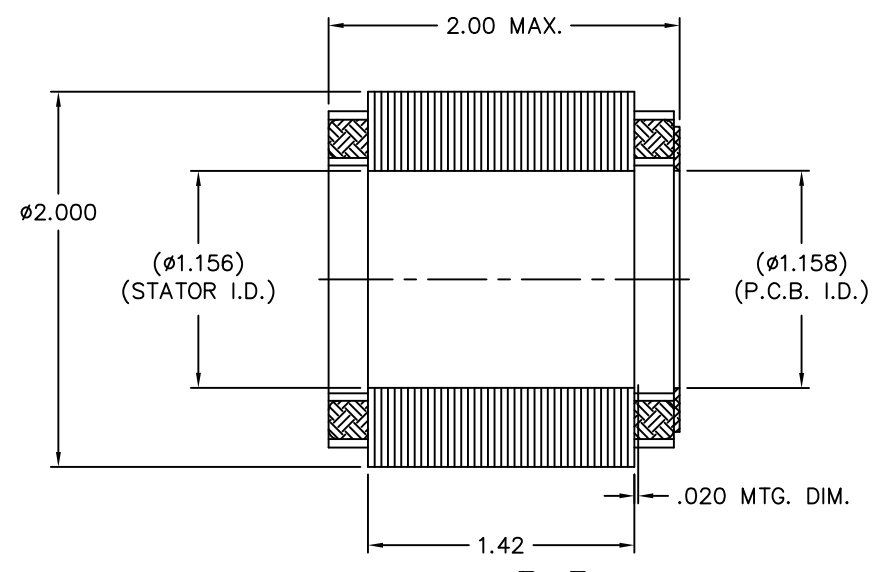
LTR	ECO NO.	DESCRIPTION	DRN	APP'D	DATE
X1	110xxx	INITIAL RELEASE	JWT		

MOTOR PARAMETERS *	UNITS	SYM	NOM. VALUE
PEAK TORQUE	OZ-IN	T <sub>p</sub>	93.0
CONTINUOUS STALL TORQUE **	OZ-IN	T <sub>CS</sub>	22.0
MOTOR CONSTANT	OZ-IN/√WATT	K <sub>M</sub>	6.0
ELECTRICAL TIME CONSTANT	MILLISECOND	τ <sub>E</sub>	0.68
MECHANICAL TIME CONSTANT	MILLISECOND	τ <sub>M</sub>	9.6
POWER I <sup>2</sup> R @ T <sub>p</sub>	WATTS	P <sub>p</sub>	240.0
DAMPING FACTOR (ZERO IMPEDANCE)	OZ-IN/(RAD/SEC)	F <sub>0</sub>	0.26
BREAKAWAY TORQUE	OZ-IN	T <sub>F</sub>	3.0
ROTOR INERTIA	OZ-IN SEC <sup>2</sup>	J <sub>M</sub>	2.3x10 <sup>-3</sup>
MAX ALLOWABLE SPEED	RPM	S <sub>M</sub>	10,000
SPEED @ OZ-IN & VDC	RPM	S <sub>L</sub>	
THEO ACC @ T <sub>p</sub>	RAD/SEC <sup>2</sup>	α <sub>T</sub>	4x10 <sup>4</sup>
THERMAL RESISTANCE ***	°C/WATT	θ <sub>TH</sub>	6.1
MAX ALLOWABLE WINDING TEMP	°C	TEMP	155
NUMBER OF PHASES/WINDING TYPE			3/Y
NUMBER OF POLES			8
WEIGHT	OZ	W <sub>T</sub>	10.0

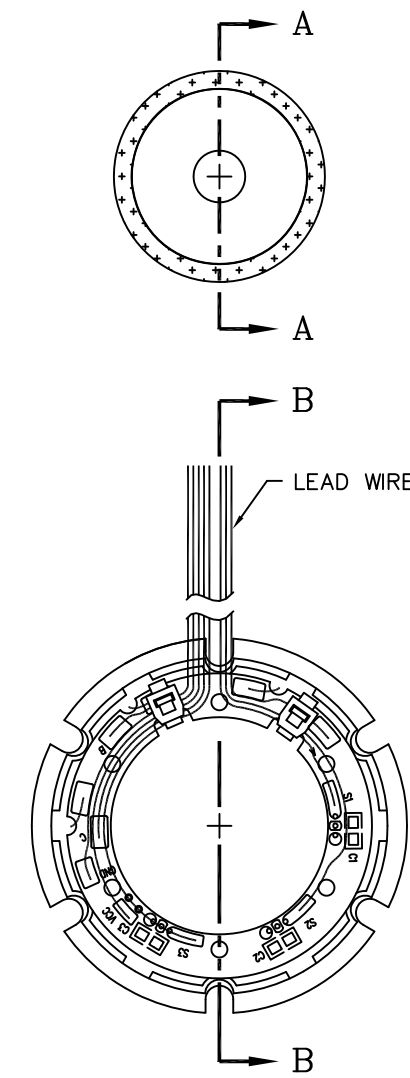
- NOTES: UNLESS OTHERWISE SPECIFIED
1. INTERPRET DIMENSIONING AND TOLERANCING IAW ASME Y14.5M-1994.
  2. INTERPRET DRAWING IAW ASME Y14.100.
  3. ALL ABBREVIATIONS IAW ASME Y14.38.



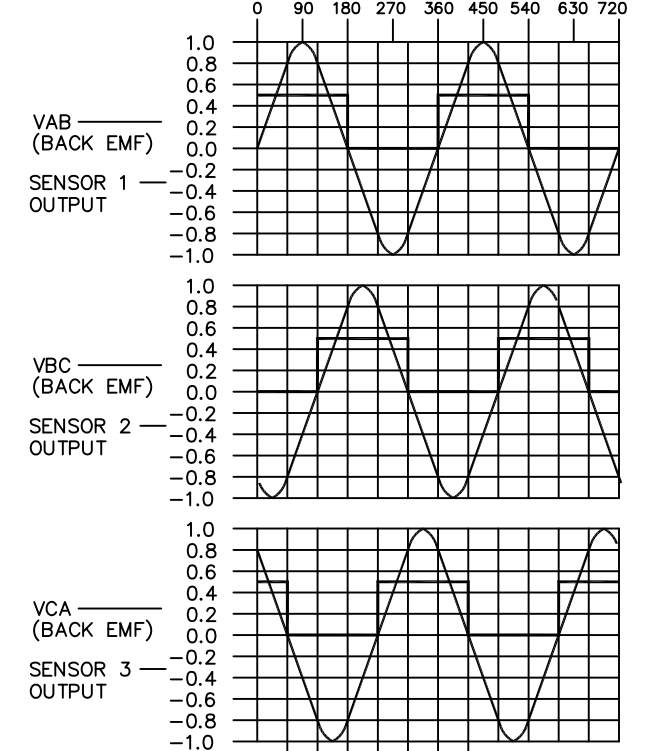
SECTION A-A  
ROTOR ASSEMBLY



SECTION B-B



BACK EMF AND SENSOR WAVEFORMS  
(ROTATION OF MOTOR = COUNTER CLOCKWISE FACING LEAD SIDE)



MOTOR LEADS	A	B	C	1	2	3	4	5	6
RED	+	+	-	-					
BLK	-	-	+	+					
GRN			-	-	+	+			
BRN	1	1	0	0	0	0	1		
BLU	0	1	1	1	0	0			
ORG	0	0	0	1	1	1			
YEL									
GRY									

Vcc+  
GND

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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 J. THOMPSON	DATE 11/17/11	TITLE BLDC MOTOR PART SET		
MECH CHECK		SIZE B	FSCM NO. 55789	DWG NO. DIP20-19-HPZ(LTR)
APPD		SCALE 1/1	REV X1	SHEET 1 OF 1
FILE NO. M:\TOPLEVEL\DIP\...				