

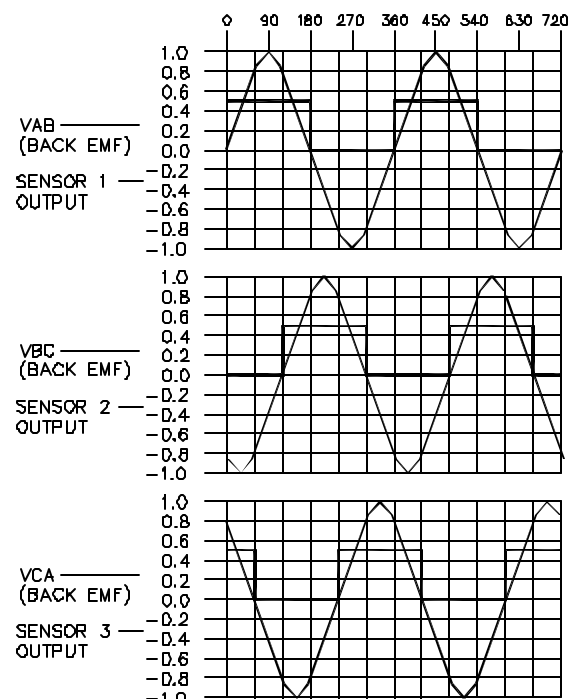
LTR	ECD NO.	DESCRIPTION	DRN	APP'D	DATE
A	080439	PRODUCTION RELEASE	JWT	BD	11/11/08
B	090136	CHG'D LEAD LENGTH AND SHAFT EXTENSION	JWT	MG	7/14/09

WINDING CONSTANTS*	UNITS	TOL	SYM	WDG Z
DC RESISTANCE	OHMS	±12.5%	R	0.13
VOLTAGE @ T _p	VOLTS	NOMINAL	V _p	6.59
CURRENT @ T _p	AMPERES	NOMINAL	I _p	50.7
TORQUE SENSITIVITY	OZ-IN/AMP	±10%	K _t	4.93
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K _b	0.0348
INDUCTANCE @ 1Khz	MILLIHENRIES	±30%	L	0.165

MOTOR PARAMETERS*	UNITS	SYM	VALUE
PEAK TORQUE	OZ-IN	T _p	250.0
CONTINUOUS STALL TORQUE**	OZ-IN	T _{cs}	63.8
MOTOR CONSTANT	OZ-IN/√WATT	K _M	13.7
ELECTRICAL TIME CONSTANT	MILLISECONDS	τ _E	1.27
MECHANICAL TIME CONSTANT	MILLISECONDS	τ _M	1.74
POWER I²R @ T _p	WATTS	P	334
DAMPING FACTOR (ZERO IMPEDANCE)	OZ-IN/(RAD/SEC)	F _D	1.32
FRICTION TORQUE	OZ-IN	T _F	3.0
ROTOR INERTIA	OZ-IN-SEC²	J _M	2.3x10 ⁻³
THEO. NO LOAD SPEED	RPM	S ₀	5270
THEO ACC @ T _p	RAD/SEC²	α _T	1.1x10 ⁵
THERMAL RESISTANCE	°C/WATT	θ _{TH}	4.0
MAX ALLOWABLE WINDING TEMP	°C	TEMP	155
PHASES/WINDING TYPE			3/Δ
POLES			4
WEIGHT	OZ	W _T	28.0

* 25°C AMBIENT TEMP
 ** 25°C AMBIENT, 155° WINDING TEMP

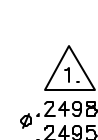
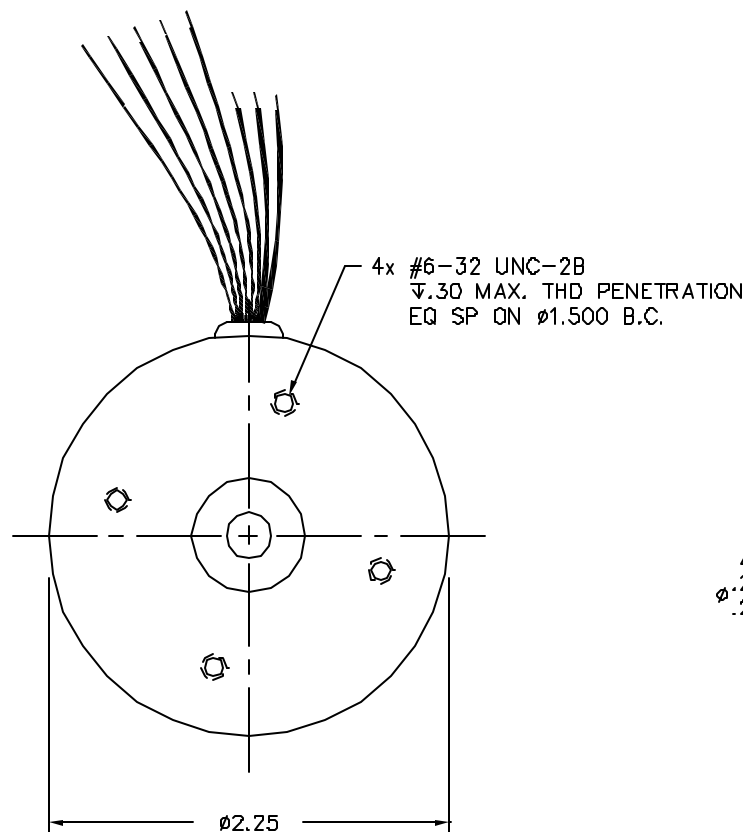
BACK EMF AND SENSOR WAVEFORMS
 (ROTATION OF MOTOR = CLOCKWISE FACING LEAD SIDE)



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

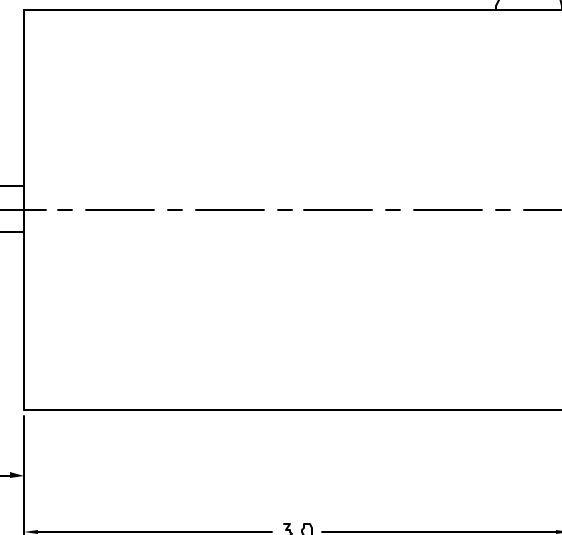
1. SHAFT RUNOUT TO BE .003 MAX.

NOTES: UNLESS OTHERWISE SPECIFIED



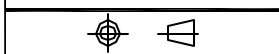
.75±.03

LEAD WIRE: TEFLON TYPE E
 3x #18 AWG
 5.0 MIN. LONG
 5x #24 AWG
 8.0 MIN. LONG
 STRIP AND TIN
 ENDS .25 ±.05 EA



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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 .100
 -DIAMETERS SHALL NOT EXCEED A RUNOUT OF .005 FIN.

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 7/30/08

MECH CHECK S. MCGHEE 8/18/08

APPD B. DU 8/18/08

FILE NO. M:\TOPLEVEL\DIH23-30-013Z

TITLE BRUSHLESS DC MOTOR

SIZE B	FSCM NO. 55789	DWG NO. DIH23-30-013Z	REV B
SCALE: NONE		SHEET 1 OF 1	