

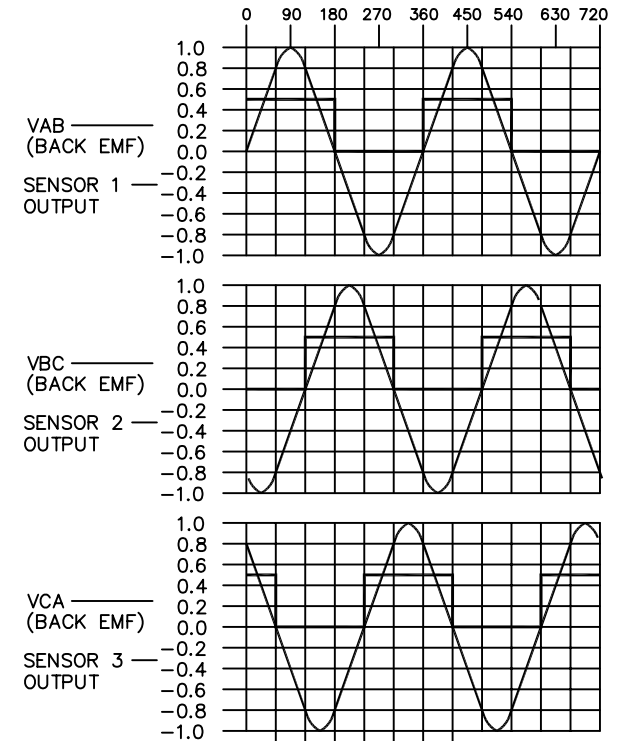
LTR	ECO NO.	DESCRIPTION	DRN	APP'D	DATE
D	043607	UPDATE INDUCTANCE & ELE CONSTANT	SLM	SH	9/16/04
K	070564	ADD WAVEFORM	SLM	BD	09/18/07

WINDING CONSTANTS	UNITS	TOL	SYM	WDG A
DC RESISTANCE	OHMS	±12.5%	R	0.73
VOLTAGE @ T _p	VOLTS	NOMINAL	V _p	11.0
CURRENT @ T _p	AMPERES	NOMINAL	I _p	15.0
TORQUE SENSITIVITY	OZ IN/AMP	±10%	K _T	2.40
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K _B	0.017
INDUCTANCE	MILLIHENRY	±30%	L	0.50

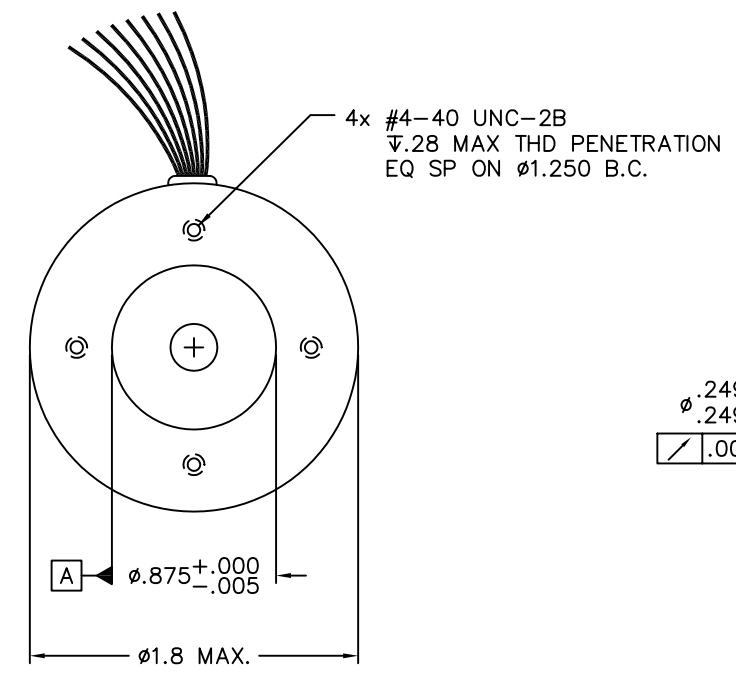
MOTOR PARAMETERS	UNITS	SYM	VALUE
PEAK TORQUE *	OZ IN	T _p	36.0
CONTINUOUS STALL TORQUE **	OZ IN	T _{CS}	13.5
MOTOR CONSTANT	OZ IN/√WATT	K _M	2.81
ELECTRICAL TIME CONSTANT	MILLISECOND	τ _E	0.68
MECHANICAL TIME CONSTANT	MILLISECOND	τ _M	0.93
POWER I ² R @ T _p	WATTS	P _p	164.3
DAMPING FACTOR (ZERO IMPEDANCE)	OZ IN/(RAD/SEC)	F ₀	0.056
BREAKAWAY TORQUE	OZ IN	T _F	1.0
ROTOR INERTIA	OZ IN SEC ²	J _M	5.2x10 ⁻⁴
MAX ALLOWABLE SPEED	RPM	S _M	14,000
SPEED @ OZ IN & VDC	RPM	S _L	
THEO ACC @ T _p	RAD/SEC ²	α _T	6.9x10 ⁴
THERMAL RESISTANCE ***	°C/WATT	θ _{TH}	3.8
MAX ALLOWABLE WINDING TEMP	°C	TEMP	155
PHASES/WINDING TYPE			3/Y
POLES			4
WEIGHT	OZ	W _T	10.0

* 10 SEC @ 25°C AMBIENT TEMP
 ** 25°C AMBIENT, 155° WINDING TEMP
 *** WITH 12 X 12 X .25 THICK AL HEAT SINK

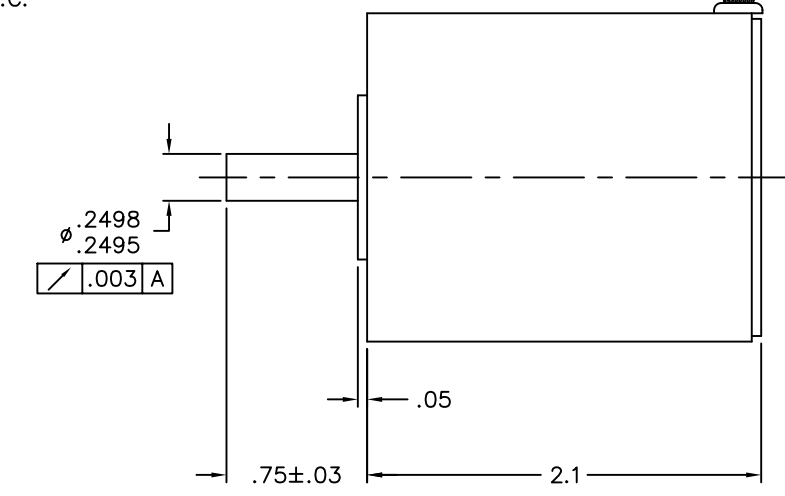
BACK EMF AND SENSOR WAVEFORMS
 (ROTATION OF MOTOR = COUNTER CLOCKWISE FACING LEAD SIDE)



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



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 √125
 -DIMENSIONS APPLY AFTER FINISH
 -MAX FILLET R .010
 TOLERANCES:
 DECIMALS ANGULAR
 .X ± .03 ±0° 30'
 .XX ± .01
 .XXX ± .005
 DO NOT SCALE DRAWING

BEI KIMCO MAGNETICS DIVISION
 VISTA, CA 92081

DRAWN R. ELLIOTT	DATE 1/30/90	TITLE BRUSHLESS DC MOTOR		
MECH CHECK McGHEE	DATE 09/18/07	SIZE B	FSCM NO. 55789	DWG NO. DIH18-21-BBNA
APPD HA PHAM	DATE 2/2/90	SCALE 1/1	REV K	SHEET 1 OF 1
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