

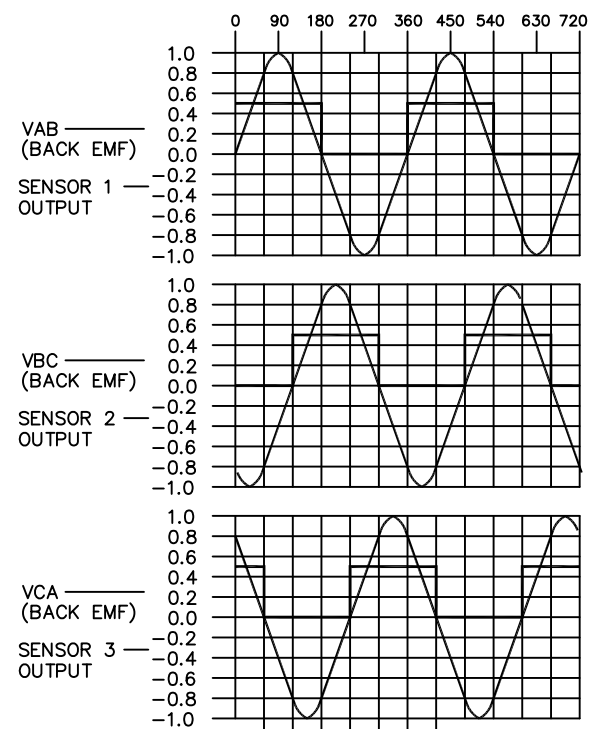
LTR	ECO NO.	DESCRIPTION	DRN	APP'D	DATE
A	160XXX	INITIAL RELEASE	JWT		

WINDING CONSTANTS	UNITS	TOL	SYM	WDG A
DC RESISTANCE	OHMS	±12.5%	R	0.2
VOLTAGE @ T _p	VOLTS	NOMINAL	V _p	8.4
CURRENT @ T _p	AMPERES	NOMINAL	I _p	41.67
TORQUE SENSITIVITY	OZ IN/AMP	±10%	K _t	6
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K _b	0.042
INDUCTANCE	MILLIHENRY	±30%	L	0.3

MOTOR PARAMETERS	UNITS	SYM	VALUE
PEAK TORQUE *	OZ IN	T _P	250.0
CONTINUOUS STALL TORQUE **	OZ IN	T _{CS}	54.0
MOTOR CONSTANT	OZ IN/√WATT	K _M	13.5
ELECTRICAL TIME CONSTANT	MILLISECOND	τ _E	1.4
MECHANICAL TIME CONSTANT	MILLISECOND	τ _M	1.9
POWER I ² R @ T _p	WATTS	P	368.7
DAMPING FACTOR (ZERO IMPEDANCE)	OZ IN/(RAD/SEC)	F ₀	1.197
FRICTION TORQUE	OZ IN	T _F	3.0
ROTOR INERTIA	OZ IN SEC ²	J _M	2.3x10 ⁻³
MAX ALLOWABLE SPEED	RPM	S _M	15,000
SPEED @ 40 OZ IN & 24 VDC	RPM	S _I	4,000
THEO ACC @ T _p	RAD/SEC ²	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

* 10 SEC @ 25°C AMBIENT TEMP
 ** 25°C AMBIENT, 155° WINDING TEMP
 *** WITH 8 X 8 X .25 THICK AL HEAT SINK

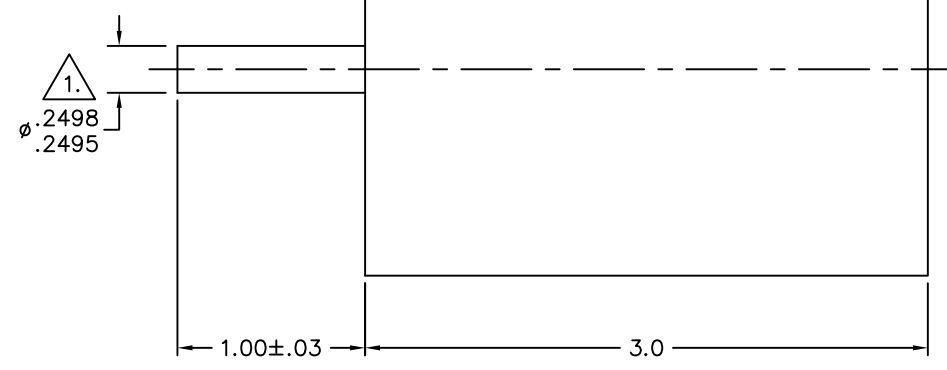
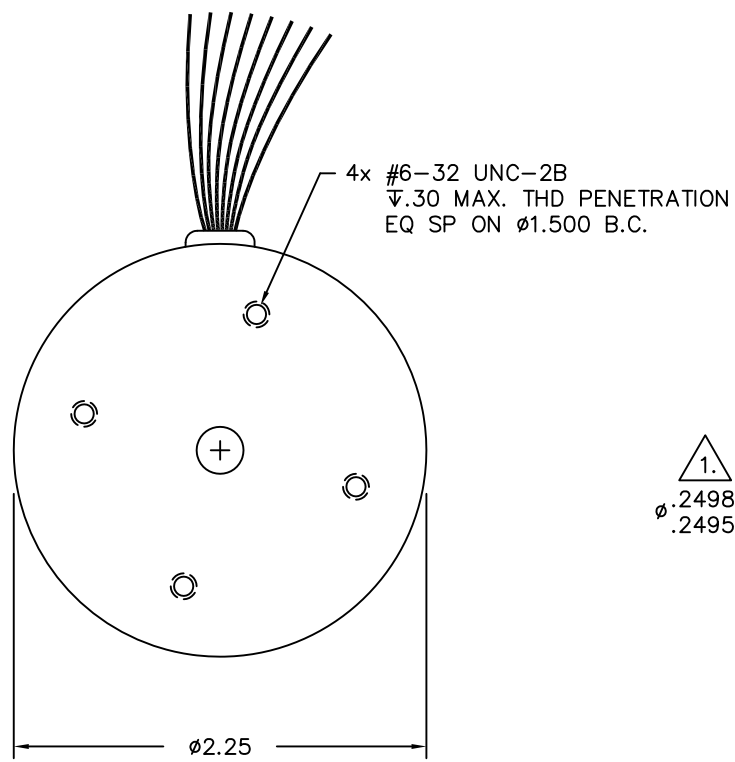
BACK EMF AND SENSOR WAVEFORMS
 (ROTATION OF MOTOR = CLOCKWISE FACING LEAD SIDE)



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

1. SHAFT RUNOUT TO BE .003 MAX.

NOTES: UNLESS OTHERWISE SPECIFIED



LEAD WIRE: TEFLON TYPE E
 3x #22 AWG
 5x #24 AWG
 6.0 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
 -DIAMETERS SHALL NOT EXCEED A RUNOUT OF .005 FIM.
 TOLERANCES:
 DECIMALS ANGULAR
 .X ± .03 ±0° 30'
 .XX ± .01
 .XXX ± .005
 DO NOT SCALE DRAWING

BEI KIMCO MAGNETICS DIVISION
 VISTA, CA 92081

DRAWN J. THOMPSON	DATE 05/27/16	TITLE BRUSHLESS DC MOTOR		
MECH CHECK		SIZE B	FSCM NO. 55789	DWG NO. DIH23-30-007A
APPD		REV A	SHEET 1 OF 1	
FILE NO. M:\TOPLEVEL\DIH23-30-007A	SCALE: NONE			