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DIH14-20-BDYA

X1

1

WINDING CONSTANTS*	UNITS	TOL	SYM	WDG A
DC RESISTANCE	OHMS	±12.5%	R	1.0
VOLTAGE @ T _p	VOLTS	NOMINAL	V _p	7.69
CURRENT @ T _p	AMPERES	NOMINAL	I _p	7.69
TORQUE SENSITIVITY	OZ-IN/AMP	±10%	K _T	1.95
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K _B	0.0138
INDUCTANCE	MILLIHENRY	±30%	L	0.37

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

NOTES: UNLESS OTHERWISE SPECIFIED

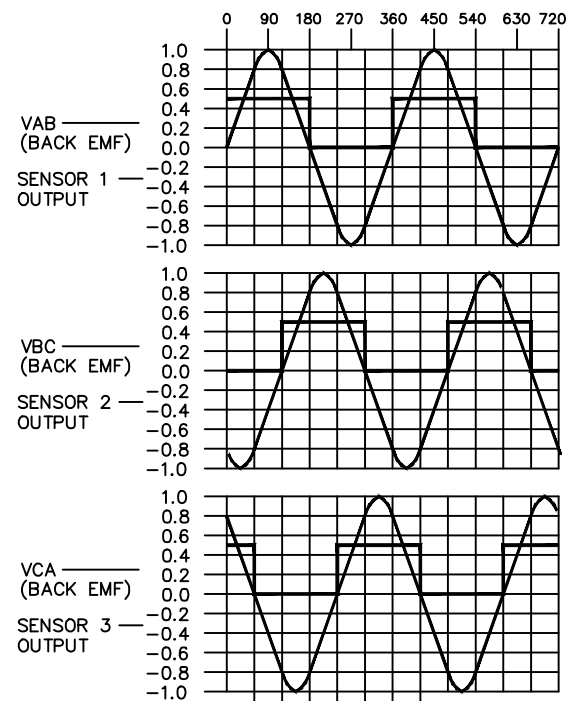
1. INTERPRET DIM. & TOL. PER ANSI Y14.5M-1982.

2. SHAFT RUNOUT TO BE .003 MAX.

MOTOR PARAMETERS*	UNITS	SYM	VALUE
PEAK TORQUE	OZ-IN	T _p	15.0
CONTINUOUS STALL TORQUE **	OZ-IN	T _{cs}	6.0
MOTOR CONSTANT	OZ-IN/√WATT	K _M	1.95
ELECTRICAL TIME CONSTANT	MILLISECOND	τ _E	0.37
MECHANICAL TIME CONSTANT	MILLISECOND	τ _M	31.5
POWER I ² R @ T _p	WATTS	P _p	59.2
DAMPING FACTOR (ZERO IMPEDANCE)	OZ-IN/(RAD/SEC)	F ₀	0.027
FRICITION TORQUE	OZ-IN	T _F	0.2
ROTOR INERTIA	OZ-IN SEC ²	J _M	1.2x10 ⁻⁴
THEO. NO-LOAD SPEED	RPM	S _M	30,000
SPEED @ 5 OZ-IN & 24 VDC	RPM	S _L	12,000
THEO ACC @ T _p	RAD/SEC ²	α _T	1.3x10 ⁵
THERMAL RESISTANCE ***	°C/WATT	θ _{TH}	8.0
MAX ALLOWABLE WINDING TEMP	°C	TEMP	125
PHASES/WINDING TYPE			3/Y
POLES			4
WEIGHT	OZ	W _T	6.0

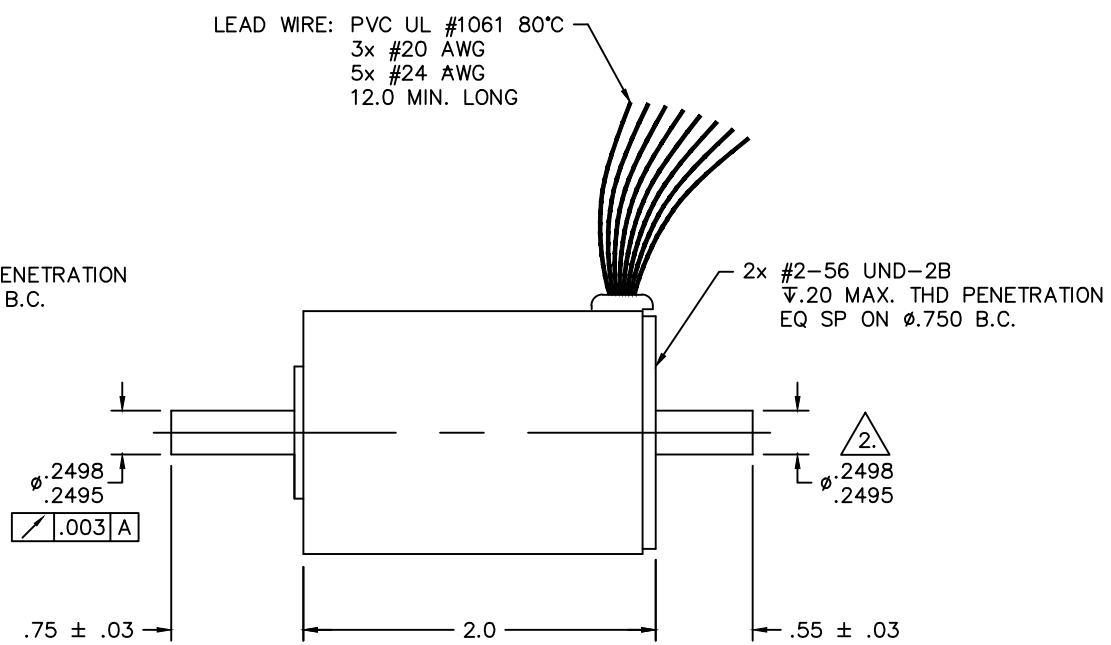
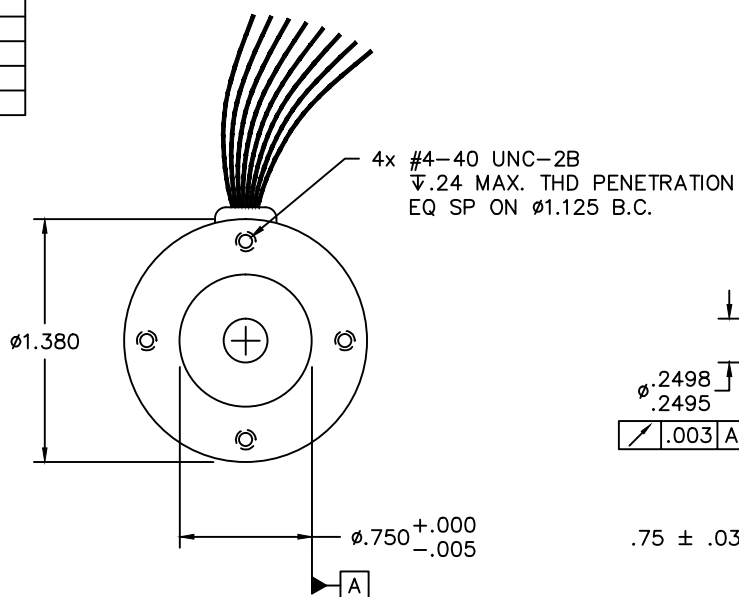
* 25°C AMBIENT TEMP
 ** 25°C AMBIENT, 125° WINDING TEMP
 *** WITH 12 X 12 X .25 THICK AL HEAT SINK

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



COLOR	1	2	3	4	5	6
RED	+	+	-	-	-	-
BLK	-	+	+	+	-	-
GRN	-	-	-	+	+	+
BRN	1	1	0	0	0	1
BLU	0	1	1	1	0	0
ORG	0	0	0	1	1	1
YEL						
GRY						

MOTOR LEADS { A, B, C }
 HALL SENSOR LEADS { 1, 2, 3 }
 Vcc+
 GND



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 .X ± .03
 .XX ± .01
 .XXX ± .005
 ANGULAR ±0° 30'
 DD NOT SCALE DRAWING

BEI KIMCO MAGNETICS DIVISION
 VISTA, CA 92081

DRAWN J. THOMPSON
 MECH CHECK
 DATE 9/07/11
 APPD
 FILE NO. M:\DIH\DIH14-20-BDYA

TITLE BRUSHLESS DC MOTOR
 SIZE B
 FSCM NO. 55789
 DWG NO. DIH14-20-BDYA
 REV X1
 SCALE 1/1
 SHEET 1 OF 1

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