

DIH18-14-BBNA

X1

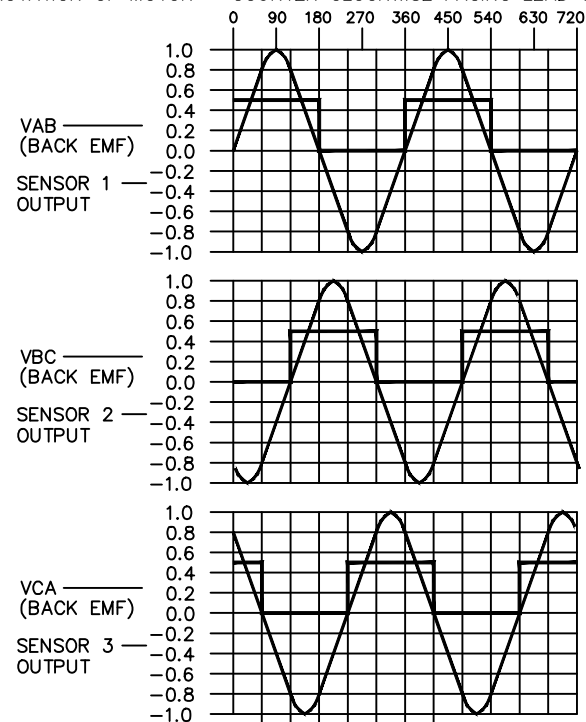
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WINDING CONSTANTS	UNITS	TOL	SYM	WDG A
DC RESISTANCE	OHMS	±12.5%	R	0.85
VOLTAGE @ T _P	VOLTS	NOMINAL	V _P	10.2
CURRENT @ T _P	AMPERES	NOMINAL	I _P	12.0
TORQUE SENSITIVITY	OZ-IN/AMP	±10%	K _T	1.0
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K _B	0.007
INDUCTANCE	MILLIHENRY	±30%	L	0.33

MOTOR PARAMETERS	UNITS	SYM	NOM. VALUE
PEAK TORQUE *	OZ-IN	T _P	12.0
CONTINUOUS STALL TORQUE **	OZ-IN	T _{CS}	4.3
MOTOR CONSTANT	OZ-IN/√WATT	K _M	1.1
ELECTRICAL TIME CONSTANT	MILLISECOND	τ _E	0.39
MECHANICAL TIME CONSTANT	MILLISECOND	τ _M	15.7
POWER I ² R @ T _P	WATTS	P _P	122.4
DAMPING FACTOR (ZERO IMPEDANCE)	OZ-IN/(RAD/SEC)	F _O	0.008
BREAKAWAY TORQUE	OZ-IN	T _F	0.3
ROTOR INERTIA	OZ IN SEC ²	J _M	1.3x10 ⁻⁴
THEO. NO-LOAD SPEED @ 12.0 VDC	RPM	S _M	18,000
SPEED @ OZ-IN & VDC	RPM	S _L	
THEO ACC @ T _P	RAD/SEC ²	α _T	9.2x10 ⁴
THERMAL RESISTANCE ***	°C/WATT	θ _{TH}	5.4
MAX ALLOWABLE WINDING TEMP	°C	TEMP	155
NUMBER OF PHASES/WINDING TYPE			3/Y
NUMBER OF POLES			4
WEIGHT	OZ	W _T	5.2

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

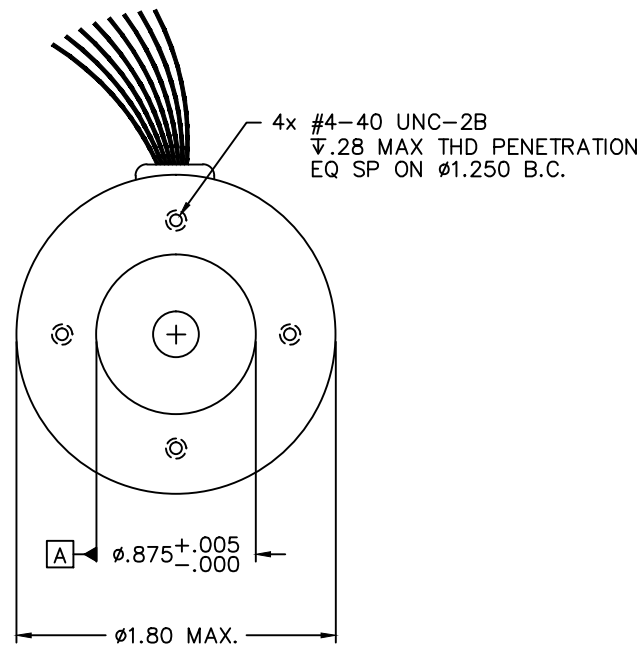
BACK EMF AND SENSOR WAVEFORMS
 (ROTATION OF MOTOR = COUNTER CLOCKWISE FACING LEAD SIDE)



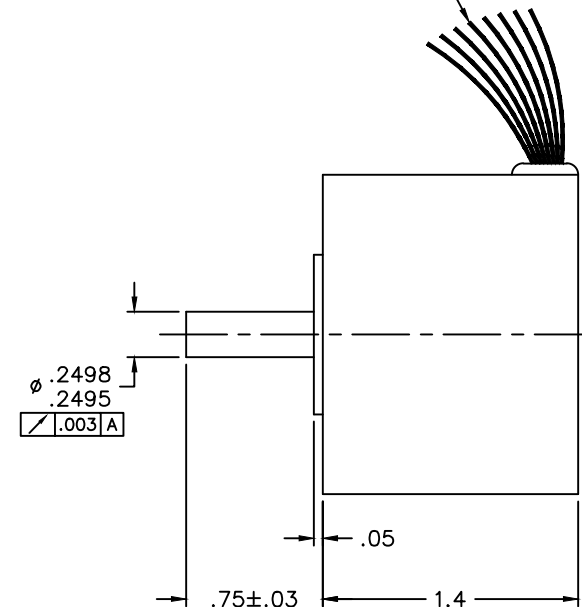
COLOR	1	2	3	4	5	6
A RED	+	+	-	-	-	-
B BLK	-	+	+	-	-	-
C GRN	-	-	+	+	-	-
1 BRN	1	1	0	0	0	1
2 BLU	0	1	1	1	0	0
3 ORG	0	0	0	1	1	1
Vcc+	YEL					
GND	GRY					

NOTES: UNLESS OTHERWISE SPECIFIED
 1. INTERPRET DIM. & TOL. ASME Y14.5M-1994.

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



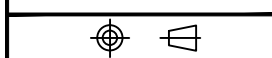
LEAD WIRE: PVC UL #1061 80°C
 8x #24 AWG
 12.0 MIN LONG



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THIRD ANGLE PROJECTION



UNLESS OTHERWISE SPECIFIED:
 -ALL DIMENSIONS ARE IN INCHES
 -BREAK SHARP EDGES .015 MAX.
 -SURFACE ROUGHNESS √63
 -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 J. THOMPSON DATE 09/01/11

MECH CHECK

APPD

FILE NO. M:\TOP LEVEL\DIH\...

TITLE BLDC MOTOR

SIZE B FSCM NO. 55789 DWG NO. DIH18-14-BBNA REV X1

SCALE 1/1 SHEET 1 OF 1



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