

LTR	ECO NO.	DESCRIPTION	DRN	APP'D	DATE
H	050198	MATCH REV. TO AVANTE	JJC	THP	3/15/05
I	070575	ADD WAVEFORM	SLM	BD	09/21/07

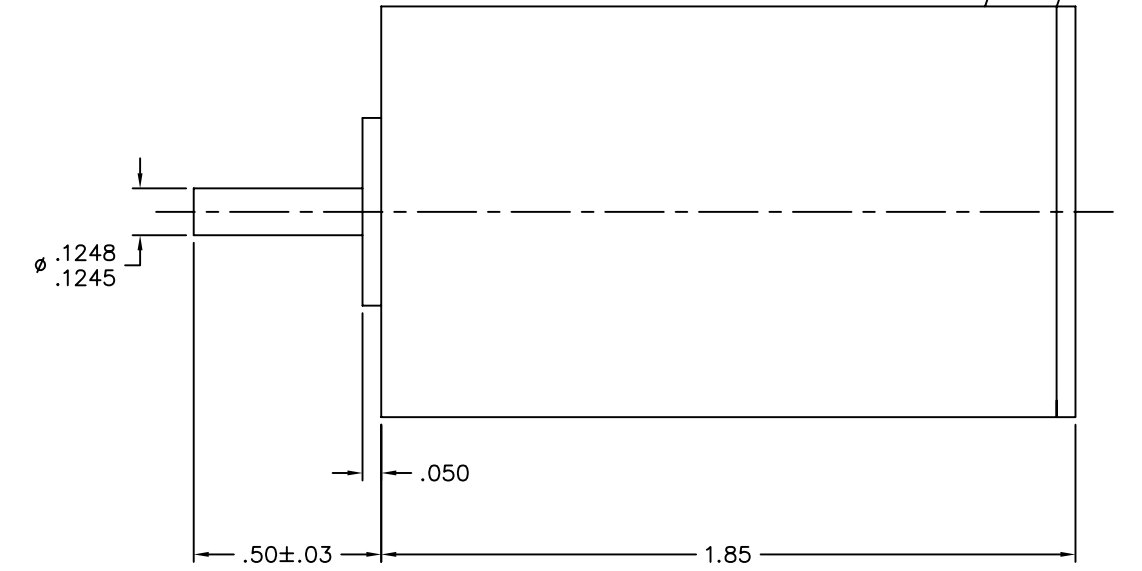
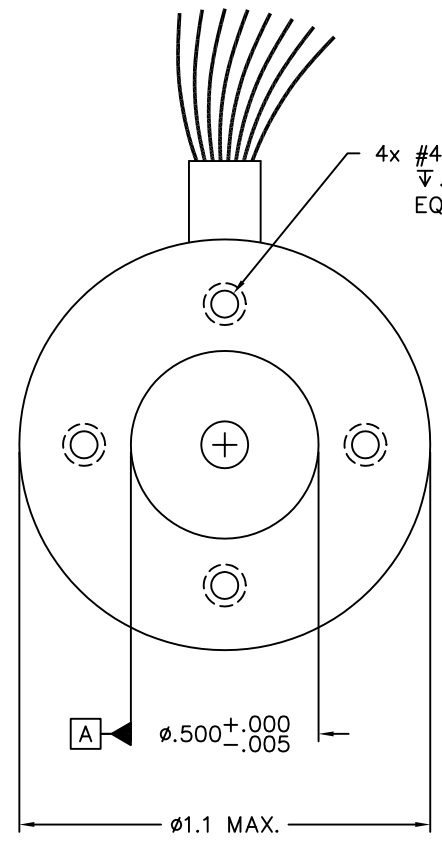
WINDING CONSTANTS	UNITS	TOL	SYM	WDG A
DC RESISTANCE	OHMS	±12.5%	R	3.4
VOLTAGE @ T <sub>p</sub>	VOLTS	NOMINAL	V <sub>p</sub>	13.6
CURRENT @ T <sub>p</sub>	AMPERES	NOMINAL	I <sub>p</sub>	4.00
TORQUE SENSITIVITY	OZ IN/AMP	±10%	K <sub>T</sub>	2.0
BACK EMF CONSTANT	VOLTS/(RAD/SEC)	±10%	K <sub>B</sub>	0.014
INDUCTANCE	MILLIHENRY	±30%	L	0.90

MOTOR PARAMETERS	UNITS	SYM	NOM. VALUE
PEAK TORQUE *	OZ IN	T <sub>p</sub>	8.0
CONTINUOUS STALL TORQUE **	OZ IN	T <sub>CS</sub>	3.5
MOTOR CONSTANT	OZ IN/√WATT	K <sub>M</sub>	1.1
ELECTRICAL TIME CONSTANT	MILLISECOND	τ <sub>E</sub>	0.26
MECHANICAL TIME CONSTANT	MILLISECOND	τ <sub>M</sub>	5.0
POWER I <sup>2</sup> R @ T <sub>p</sub>	WATTS	P <sub>p</sub>	54.4
DAMPING FACTOR (ZERO IMPEDANCE)	OZ IN/(RAD/SEC)	F <sub>o</sub>	0.008
BREAKAWAY TORQUE	OZ IN	T <sub>F</sub>	0.10
ROTOR INERTIA	OZ IN SEC <sup>2</sup>	J <sub>M</sub>	4.1x10 <sup>-5</sup>
THEO. NO-LOAD SPEED @ V <sub>p</sub>	RPM	S <sub>M</sub>	18,000
SPEED @ 3.0 OZ IN & 24 VDC	RPM	S <sub>L</sub>	
THEO ACC @ T <sub>p</sub>	RAD/SEC <sup>2</sup>	α <sub>T</sub>	1.7x10 <sup>5</sup>
THERMAL RESISTANCE ***	°C/WATT	θ <sub>TH</sub>	8.0
MAX ALLOWABLE WINDING TEMP	°C	TEMP	125
NUMBER OF PHASES/WINDING TYPE			3/Y
NUMBER OF POLES			4
WEIGHT	OZ	W <sub>T</sub>	3.1

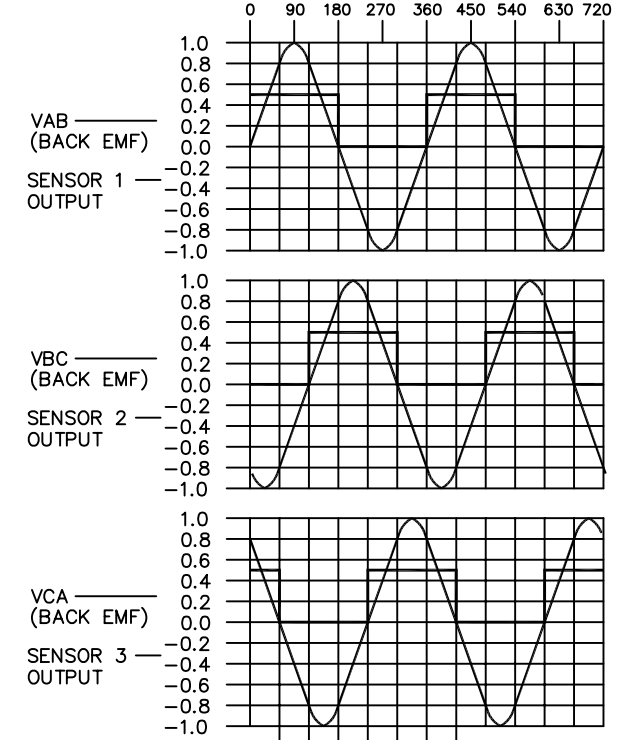
\* 10 SEC @ 25°C AMBIENT TEMP  
 \*\* 25°C AMBIENT, 125° WINDING TEMP  
 \*\*\* WITH 12 X 12 X .25 THICK AL HEAT SINK

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

LEAD WIRE: PVC UL #1061 80°C  
 3x #24 AWG  
 5x #28 AWG  
 12.0 MIN. LONG



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						

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

**BEI KIMCO MAGNETICS DIVISION**  
 VISTA, CA 92081

DRAWN R. ELLIOTT	DATE 4/29/94	TITLE BRUSHLESS DC MOTOR		
MECH CHECK P. STAHL	3/15/05	SIZE B	FSCM NO. 55789	DWG NO. DIH11-19-BDNA
APPD HA PHAM	8/3/98	SCALE 2/1	SHEET 1 OF 1	REV I
FILE NO. M:\TOP LEVEL\DIH\...				