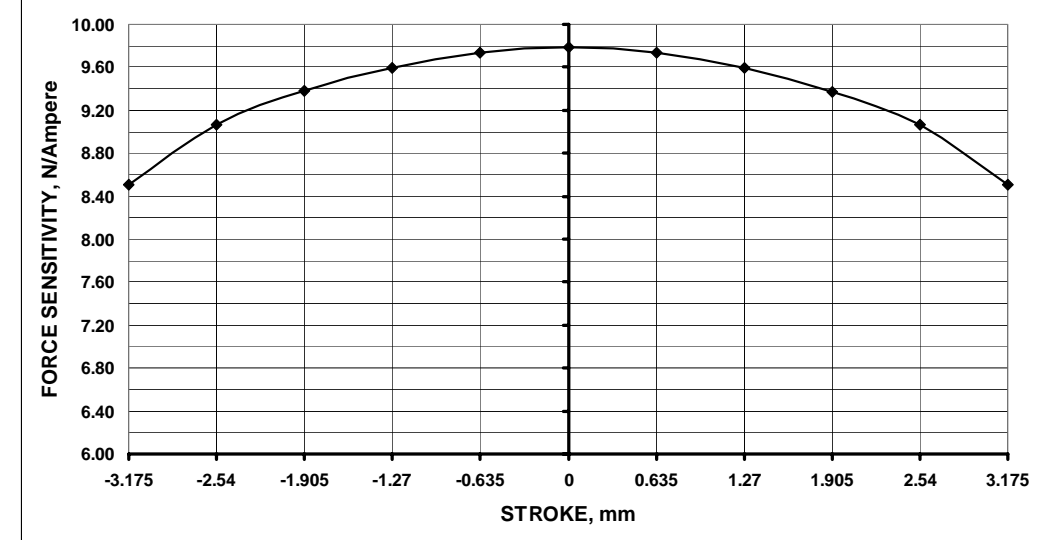
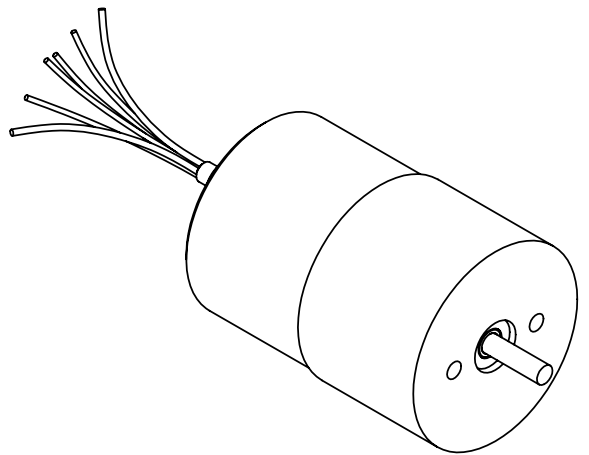


LTR	ECO NO.	DESCRIPTION	DRN	APP'D	DATE
X2	100039	UPDATE SENSOR LEADS & TABLES	RG	MG	02/18/10
X3	100080	ADD POSITION SENSOR TABLE	SLM	MG	03/24/10

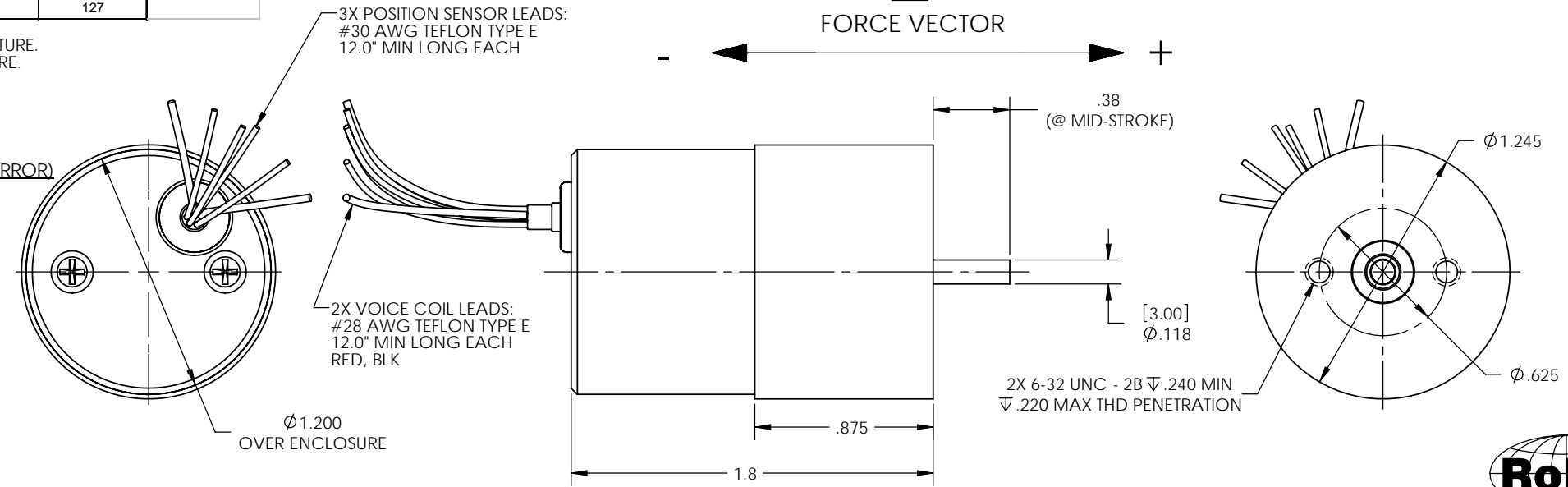
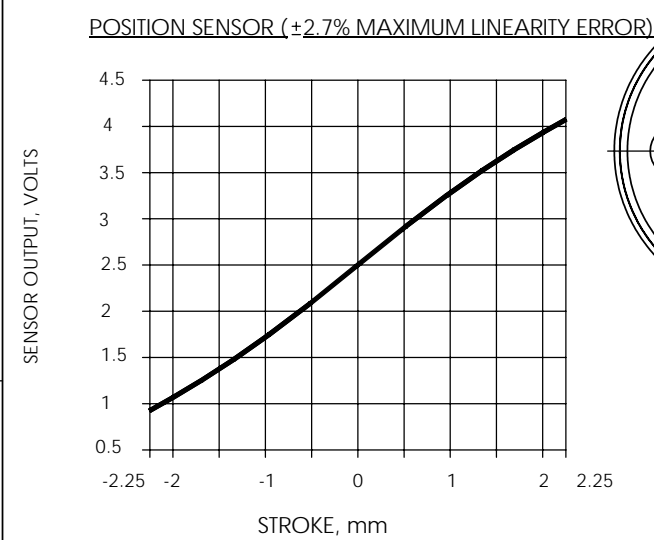
Winding Constants *	Units	Tol	Symbol	Wdg	Z
DC Resistance	Ohms	± 12.5%	R		17.1
Voltage @ F <sub>p</sub>	Volts	Nominal	V <sub>p</sub>		27.2
Current @ F <sub>p</sub>	Amps	Nominal	I <sub>p</sub>		1.59
Force Sensitivity	LB/Amp	± 10%	K <sub>F</sub>		2.2
	N/Amp	± 10%			9.79
Back EMF Constant	V/(ft/sec)	± 10%	K <sub>B</sub>		2.98
	V/(m/sec)	± 10%			9.79
Inductance ****	milli-Henry	± 15%	L		2.8

Linear Actuator Parameters *	Units	Symbol	Value
Peak Force **	LB	F <sub>p</sub>	3.5
	N		15.57
Continuous Stall Force ***	LB	F <sub>CS</sub>	1.14
	N		5.07
Actuator Constant	LB/√Watt	K <sub>A</sub>	0.53
	N/√Watt		2.36
Electrical Time Constant	micro-sec	τ <sub>E</sub>	164
Mechanical Time Constant	milli-sec	τ <sub>M</sub>	3.16
Theoretical Acceleration	ft/sec <sup>2</sup>	α <sub>T</sub>	2886.1
	m/sec <sup>2</sup>		879.7
Max Theoretical Frequency @ Full Stroke and Sinusoidal / Triangular Motion	Hz	f <sub>max</sub>	83.8/93.1
Power I <sup>2</sup> R @ F <sub>p</sub>	Watts	P <sub>p</sub>	43.3
Stroke:	± in		0.125
	± mm		3.18
Clearance on Each side of Coil	in		0.015
	mm		0.38
Thermal Resistance of Coil in still air	°C/Watt	θ <sub>TH</sub>	18.7
Maximum Allowable Coil Winding Temp	°C	Temp	155
Weight of Coil Assembly	LB	WT <sub>C</sub>	0.039
	g		17.7
Total Weight	LB	WT <sub>T</sub>	0.28
	g		127



POSITION SENSOR		
LEAD WIRE	IDENTIFICATION	DESCRIPTION
YELLOW	V <sub>CC</sub>	INPUT VOLTAGE ( 5 VOLTS)
GRAY	GND	GROUND
BROWN	V <sub>O</sub>	OUTPUT VOLTAGE
WHITE	V <sub>PP</sub>	VOLTAGE FOR PROGRAMMING ONLY, NOT TO BE USED BY CUSTOMER

\* AT MID-STROKE POSITION AND @ 25 °C AMBIENT TEMPERATURE.  
 \*\* 10 SECONDS @ 25 °C AMBIENT & 155 °C COIL TEMPERATURE.  
 \*\*\* @25 °C AMBIENT & 155 °C COIL TEMPERATURE.  
 \*\*\*\* MEASURED AT 1000 Hz.



3. A POSITIVE (+) VOLTAGE APPLIED TO THE RED LEAD WILL PRODUCE A FORCE ON THE COIL ASSEMBLY (SHAFT) IN THE POSITIVE (+) DIRECTION.  
 2. INTERPRET DRAWING IAW Y14.100.  
 1. INTERPRET DIMENSIONING AND TOLERANCING IAW ASME Y14.5M-1994.  
 NOTES: UNLESS OTHERWISE SPECIFIED

Proprietary rights of BEI Kimco are involved in the subject matter of this material and all manufacturing, reproduction, use, and sales pertaining to such subject matter are expressly reserved. This confidential and proprietary document is submitted for a specified purpose, and the recipient by accepting this material agrees that this material will not be used, copied, or reproduced in whole or in part nor its contents revealed in any manner or to any person except to meet the purpose for which it was delivered.

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	GUERRERO	DATE	12/01/09	TITLE	LINEAR ACTUATOR SYSTEM			
CHECK	McGHEE	DATE	01/14/10	SIZE	C	FSCM NO.	55789	
APPD	GODKIN	DATE	01/14/10	DWG NO.	LAS13-18-000A		REV	X3
FILE NO.	L\TOP L\LAS\		SCALE:	NONE		SHEET:		1 OF 1