

Voice Coil Driven Linear Actuator



The Voice Coil Driven Linear Actuator is used in positioning applications where high speed and high accuracy are required. The actuator may be used in the following industries; Semiconductor, Disk Drive, Automotive, Medical, Industrial, Optical, Test and Manufacturing.

The Voice Coil Driven Linear Actuators do not need commutation and resolutions of up to 13 microns or 0.0005 inches are achievable.

The non-commuted motor construction increases reliability. The direct coupling of the motor to the load allows for fast acceleration / deceleration and high speed operation.

Customized solutions can be provided upon request.

Features

- Features
- Low Cost
- High Speed Positioning
- Compact Package
- Integrated Position Feedback Sensor
- High Force Generation
- Horizontal or Vertical Operation

Typical Applications

- Automatic Assembly
- Bonding Machine
- Chip Inserter
- Connector Pin Insertion
- Disk Drive Assembly
- Glass Cutting
- Glue Dispensing Machine
- Grease Dispensing Machine
- Height Gage
- Labeling Machine
- Laser Cutting
- Latch Inspection
- Lens Polishing
- Medical Assembly
- Pick and Place
- Robotics
- Screen Printing
- Screw Adjusting
- Spot Welding
- Stacking of Components
- Switch Assembly
- Switch Testing
- Tension Control
- Tire Trimming
- Wafer Transport
- Welding

motiCont

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Motor Specifications

LVCA-051-051-01

PARAMETER	VALUE	UNIT	VALUE	UNIT
PEAK FORCE @ 10% DUTY CYCLE	89.4	N	20.0	LB
CONTINUOUS FORCE	28.3	N	6.3	LB
FORCE CONSTANT	10.7	N / Amp	2.4	LB / Amp
BACK EMF CONSTANT	10.7	Volts / Meter / sec	0.27	Volts / inch / sec
STROKE	17.8	mm	0.7	inch
COIL ASSY. MASS	100	GR	3.5	OZ
COIL RESISTANCE	4.7		Ohm	
COIL INDUCTANCE @ 120 Hz	TBD		Henry	
MAX CONTINUOUS POWER	33		Watt	

LVCA-051-064-01

PARAMETER	VALUE	UNIT	VALUE	UNIT
INTERMITTENT FORCE @ 10% DUTY CYCLE	92.9	N	20.9	LB
CONTINUOUS FORCE	29.4	N	6.6	LB
FORCE CONSTANT	9.6	N / Amp	2.2	LB / Amp
BACK EMF CONSTANT	9.6	Volts / Meter / sec	0.24	Volts / inch / sec
STROKE	31.8	mm	1.25	inch
COIL ASSY. MASS	150	GR	5.3	OZ
COIL RESISTANCE	3.9		Ohm	
COIL INDUCTANCE @ 120 Hz	4.6		mH	
MAX CONTINUOUS POWER	36		Watt	



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PARAMETER	VALUE	UNIT	VALUE	UNIT
INTERMITTENT FORCE @ 10% DUTY CYCLE	82.7	N	18.6	LB
CONTINUOUS FORCE	26.2	N	5.9	LB
FORCE CONSTANT	10.1	N / Amp	2.3	LB / Amp
BACK EMF CONSTANT	10.1	Volts / Meter / sec	0.26	Volts / inch / sec
STROKE	50.8	mm	2.00	inch
COIL ASSY. MASS	195	GR	6.9	OZ
COIL RESISTANCE	6.0		Ohm	
COIL INDUCTANCE @ 120 Hz	6.8		mH	
MAX CONTINUOUS POWER	40		Watt	

All Values at 25 °C.

Optical Encoder

Pin Assignment and Description

PIN	DESCRIPTION
1	Ground
2	Ground
3	Index-
4	Index+
5	Phase-A-
6	Phase-A+
7	+5VDC Power
8	+5VDC Power
9	Phase-B-
10	Phase-B+

Electrical Specifications

PARAMETER	Min.	Typ.	Max.	UNIT	Note
Supply Voltage	4.5	5.0	5.5	Volts	
Current Consumption (500 CPI)	-	55	57	mA	No load
Current Consumption (All Other Resolutions)	-	27	30	mA	No load
Output Voltage Sourcing to +5	2.4	3.4	-	Volts	@ -20mA
Output Voltage Sinking to Ground	-	0.4	0.8	Volts	@ 20mA

Phase Relationship

Phase-A leads Phase-B for inward plunger motion, and Phase-B leads Phase-A for outward plunger motion



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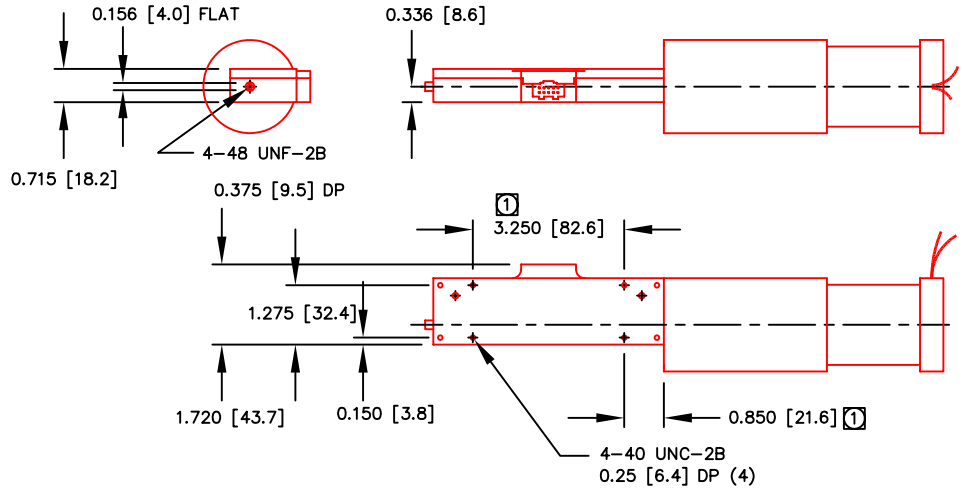
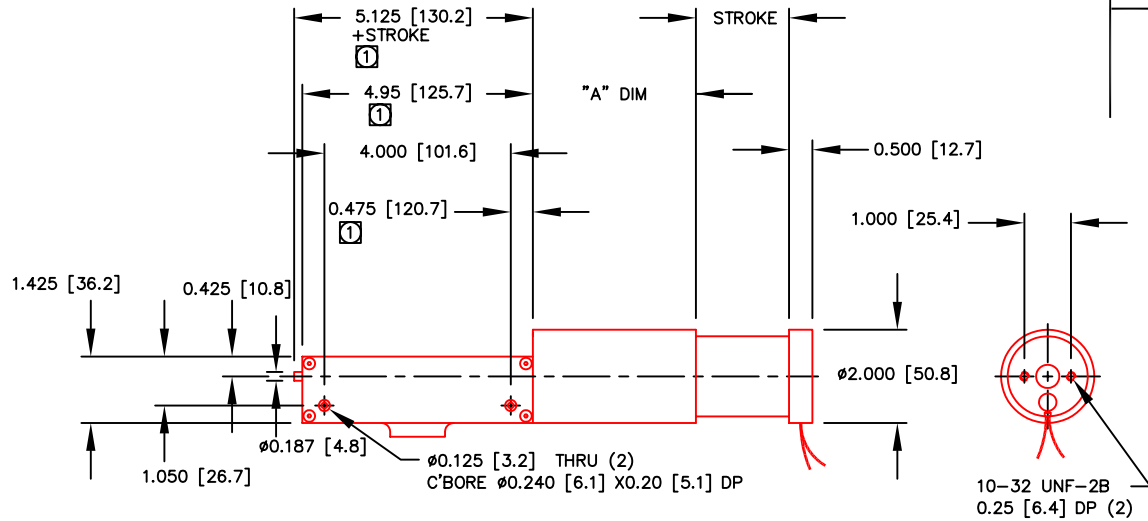
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REVISIONS					
ZONE	LETTER	DESCRIPTION	DATE	CHECKED	APPROVED



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PART NO	"A" DIMENSION	STROKE
LVCA-051-051-01	2.000 [50.8]	0.70 [17.8]
LVCA-051-064-01	2.500 [63.5]	1.20 [30.5]
LVCA-051-089-01	3.500 [88.9]	2.00 [50.8]

① - SMALLER DIMENSIONS ARE AVAILABLE UPON REQUEST FOR STROKES OF 1.00" OR LESS.
 NOTES:
 UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES (mm) TOLERANCES ON: DECIMALS FRACTIONS ANGLES .XXX .XX ± 1/125 ± 1/2" ± .005 ± .01 UNLESS OTHERWISE SPECIFIED	
USED ON	NEXT ASSY
APPLICATION	

MATERIAL	CONTRACT
FINISH TBD	DRN
	CHKD
	APPVD
	APPVD

MOTICONT			
LINEAR ACTUATOR			
SIZE A	CODE	DWG. NO. LVCA-051-XXX	REV. 2
SCALE: 1 / 4		SHEET 1 OF 1	

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