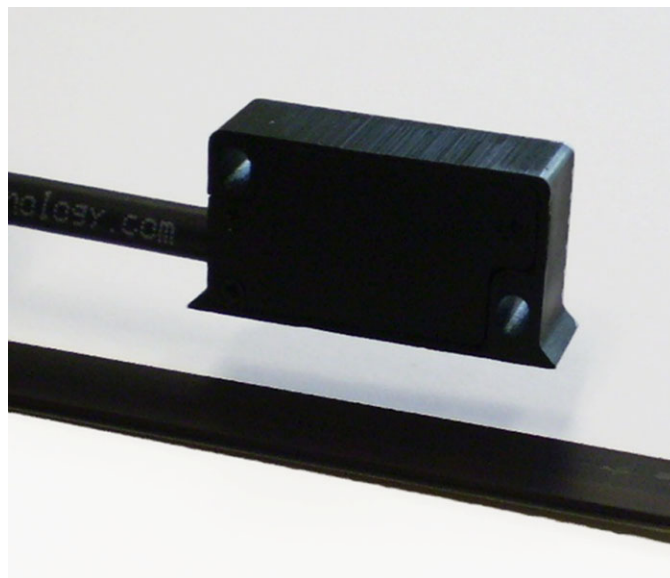


LEX-M1 Magnetic Linear Encoder



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Revision History:

- 1.0 – 1st Release
- 1.1– Updated part drawing
- 1.3 – Update accuracy

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1. Introduction

LEX-M1 is a magnetic linear encoder system with following features:

- Compact cost-effective magnetic encoder using 2mm space magnetic tape
- 1 micron resolution with 50 micron accuracy
- Differential A/B quadrature signal output
- Differential Z index signal output at 2mm interval
- +5VDC voltage input
- Includes standard 3 meter length high flex cycle cable (custom length available)
- Available with standard 1 meter magnetic tape (custom length available)

2. Technical Specifications

Power Requirement

Regulated Voltage: **+5 VDC**
 Recommended Supply Current: **100mA** (based on component ratings)

Temperature Ratings

Operating Temperature: **-25°C to +85°C** (based on component ratings)

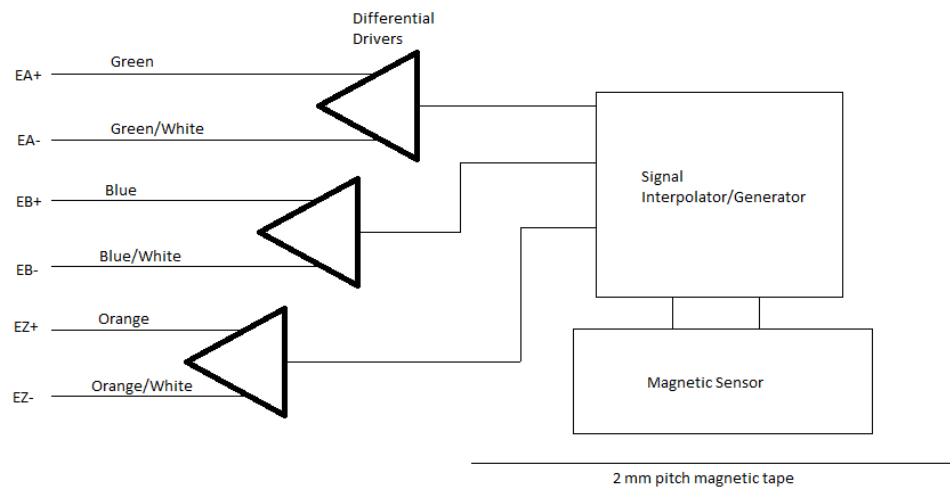
Resolution and Accuracy

Resolution: 1 micron (based on 0.5mm gap)
 Accuracy: 50 micron (based on 0.5mm gap)

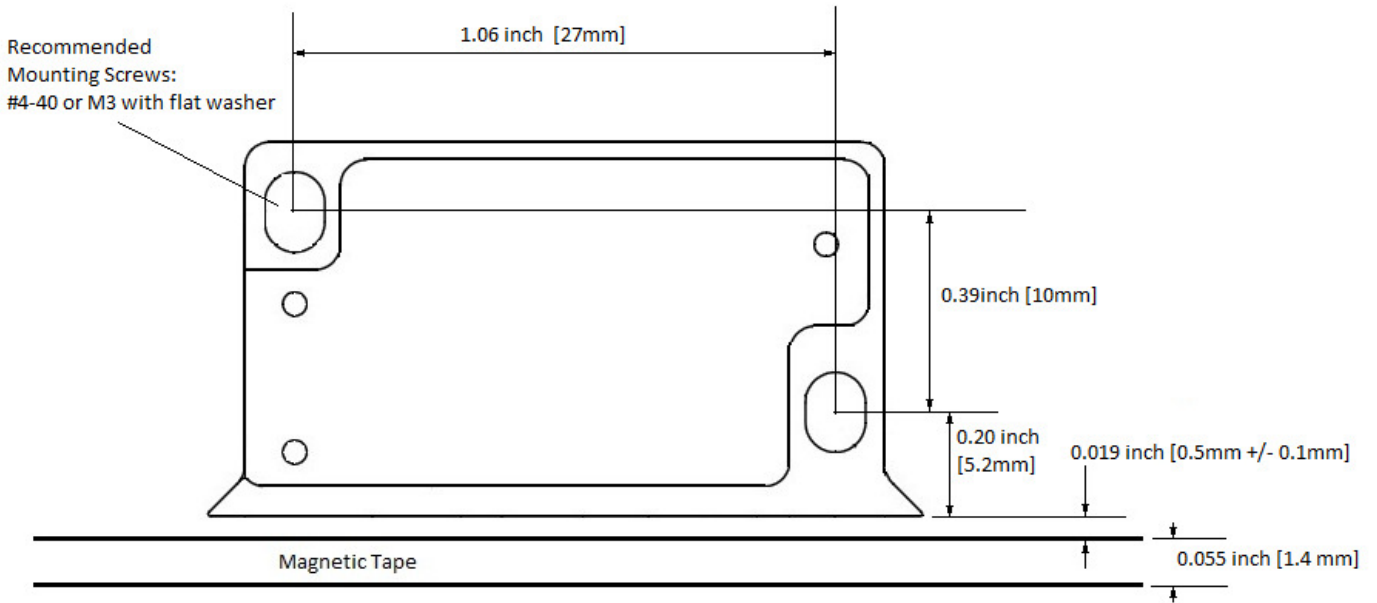
Differential Driver Information

- Output short-circuit protection
- Meets requirement of EIA Standard RS-422

Parameter	Condition	Min	Typ	Max	Units
Output High Voltage	$I_{oh} = -20\text{mA}$	2.5			V
Output Low Voltage	$I_{ol} = 20\text{mA}$			0.5	V
TRI-STATE Output Current	$V_o = 2.5\text{V}$			20	μA
	$V_o = 0.5\text{V}$			-20	μA
Output Short-Circuit Current		-30		-150	mA



4. Mounting Information



Note: Gap between the bottom surface of the reader head and the top surface of the magnetic tape is to be 1mm +/-0.1mm. Gap not within this range will result in the deterioration of performance.

5. Cable Information

- Cable Diameter: 0.196 +/- 0.005 inch [4.98 +/- 0.13mm]
- Cable Length: 3 Meters Standard (custom length available upon request)
- Cable Flex Cycle: High Cycle Continuous Flex Use Rated up to **20M** Cycle at **3 inch** [76mm] Flex Radius

Wire Color	Signal Assignment
Red	+5V
Black	GND
Green	EA+
Green/White	EA-
Blue	EB+
Blue/White	EB-
Orange	EZ+
Orange/White	EZ-

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