Linear Tilt Sensor

Features

- Linear output between 0° and 90°
- Input voltage range up to $30V_{DC}$
- Excellent temperature stability
- Overvoltage protection
- Lead Free / RoHS Compliant
- Low cost

Applications

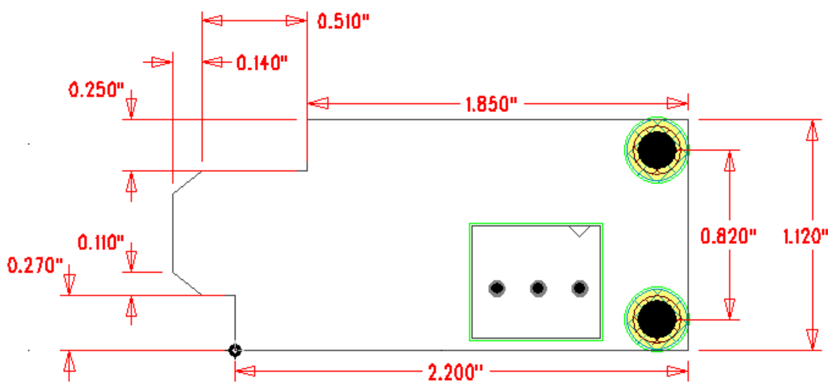
- Boom angle measurement
- Hydraulic lift systems
- Instrumentation

Overview

The LTS-325 is a linear tilt sensor, it produces a DC voltage that varies in relation with the measured angle. When the board angle changes, the output voltage varies accordingly to provide a voltage reading of the angle. This sensor is ideal in industrial applications where a real time measurement of the angle is necessary like boom angle measurement, hydraulic lift systems, etc...

Mechanical

Top View



Side View

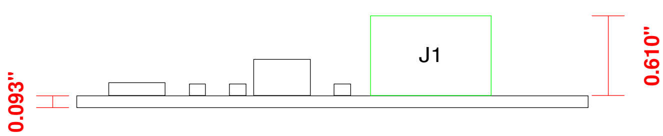


Figure 1: LTS-325 Mechanical Dimensions

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Specifications

Specifications	LTS-325	Unit
Performance		
Output linearity	0 to 90	°
Temperature stability	±0.01	%/°C
Response time	200	ms
Electrical		
Supply Voltage	10 to 30	V_{DC}
Supply Current	3mA @ 10 V_{DC} 15mA @ 30 V_{DC}	mA
Output Voltage	0.5 to 4.5 (Figure 2)	V_{DC}
Output Current	max. 16	mA
Output Impedance	1.47	KΩ
Environment		
Operating Temp Range	-40 to +85	°C
Physical		
Size	(Figure 1)	
Weight	0.03	lbs
	13.72	g

Connectors	
Pin	J1[1]
1	VIN
2	GND
3	OUT

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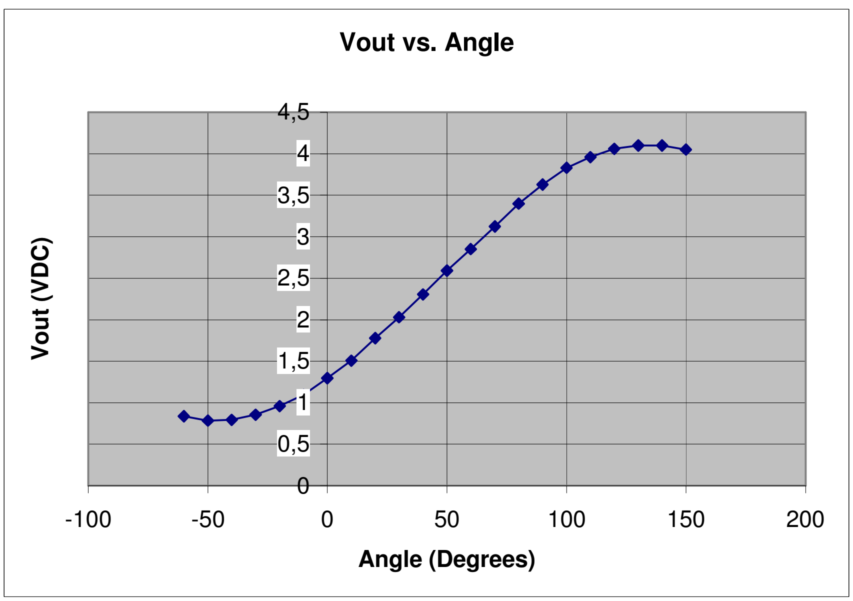

Figure 2: Vout vs Angle

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Principle of operation

The LTS-325 design is based on iMEMS (ADXL325: 3-axis accelerometer). The ADXL325 is configured to measure the static acceleration of gravity. It uses a single structure for sensing the X, Y and Z axes. Consequently, it has been designed to operate according to a given axis in a vertical plane. Figure 3 presents the working axis of the LTS-325.

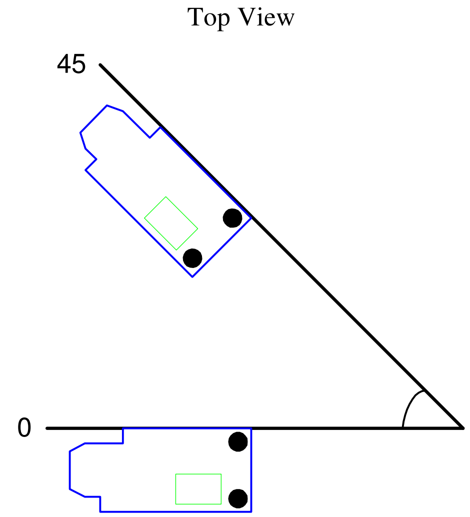

Figure 3: Working Axis of the LTS-325

Ordering Information

Part Number	Lead Free / RoHS Status	Temperature Range
LTS-325	Lead Free / RoHS Compliant	-40°C – 85°C

NOTE: The LTS-325 has been built to be flexible, the relation between the output voltage and the measured angle can be easily adjusted to fit your needs. Contact Sysacom for custom requests (sales@sysacom.com).

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