

Features

- Linear and bidirectional response measures angular displacement with repeatability of 0.18°
- Zero drift means high stability and reliability over time
- Made of highly flexible, soft, silicone elastomer for unrestricted bending
- Differential capacitance measurement has high CMRR to both electrical and mechanical noise
- Ultra low power consumption with active run current down to 78uA
- Convenient I²C interface with onboard calibration and bootloader
- Water/weather resistant and highly durable



How It Works

The Bend Labs One Axis sensor provides a differential capacitance measurement that is linearly proportional to the angular displacement of the sensor. Unlike traditional flex sensors, the one axis sensor produces repeatable and precise angular output regardless of path, bending radius, or strain. Although these sensors are stretchable, the differential measurement assures that common mode signals such as stretching are rejected and only flexion is measured.

Sensor Specifications

- Dimensions: 100mm x 7.62mm x 1.27mm
(3.94in x 0.30in x 0.05in)
- Average Sensitivity: 0.274 pF/°
- Repeatability: 0.18°
- Life Cycle: >1M cycles

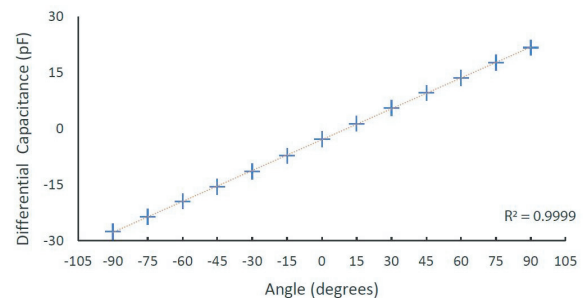
Electrical Specifications

- Sensitivity: 0.016° LSB
- Voltage: 1.62 - 3.63V
- Output: I²C
- Power Consumption @ 3.3V
 - 200 uA @ 100 Hz
 - Active run down to 97 uA
 - 1.7 uA suspended
 - 50 nA shutdown
- Power Consumption @ 1.8V
 - 183 uA @ 100 Hz
 - Active run down to 78 uA
 - 1.7 uA suspended
 - 50 nA shutdown

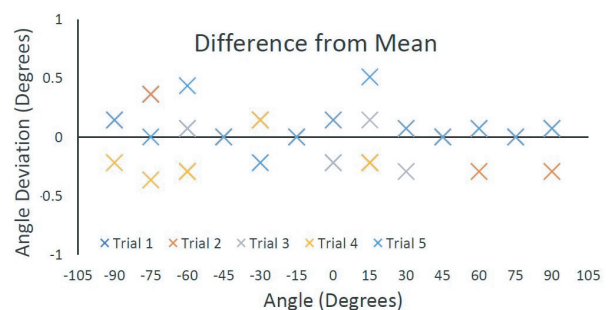
Graphs

The One Axis sensor provides angular displacement data in degrees via an I²C bus. Values reported on this sheet are indicative of this class of sensors.

Linearity



Mean Variance



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