Nitto Bend Technologies

One Axis Sensor

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 Nitto Bend Technologies 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
- Usage Condition:
  30% strain for normal use
  Do not exceed 50% strain
  Minimum bend radius of 2x sensor thickness

Electrical Specifications

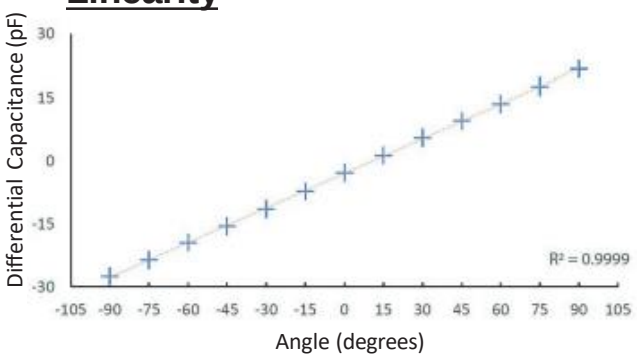
- Sensitivity: 0.016° LSB
- Voltage: 1.62 - 3.63V
- Output: I²C
- Power Consumption @ 3.3V
  - 200 µA @ 100 Hz
  - Active run down to 97 µA
  - 1.7 µA suspended
  - 50 nA shutdown
- Power Consumption @ 1.8V
  - 183 µA @ 100 Hz
  - Active run down to 78 µA
  - 1.7 µA suspended
  - 50 nA shutdown

[Product Warranty]
・The sensor should activate when the power is turned on
・Sensor will connect to our app and display data
[Precision and resolution are not guaranteed]
・The sensor should remain undamaged within the warranty period
[6 months from the date of order]

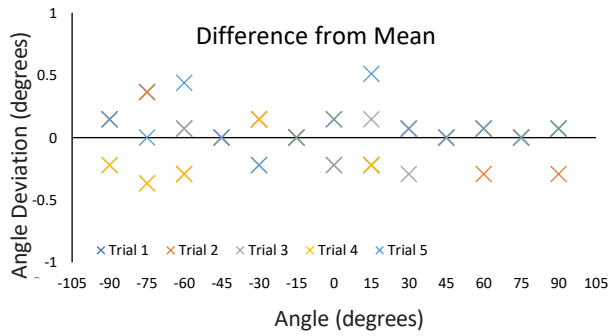
Graphs

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



* The above values are measured values and are not guaranteed.
* The above values are subject to change without prior notice.