

MB090-A02 Sensor Kit



Bending Detection Sensors

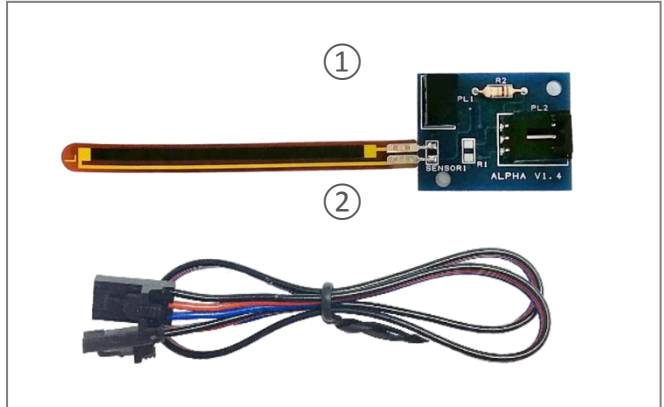
This sensor kit will assist you to quickly understand the sensor technology and evaluate suitability for your design.

What' included

- ① MB090 Sensor kit -1pc
(Sensor MB090-N-221-A02 + PCB)
- ② Cable - 1pc (3 Pin Molex Connector)

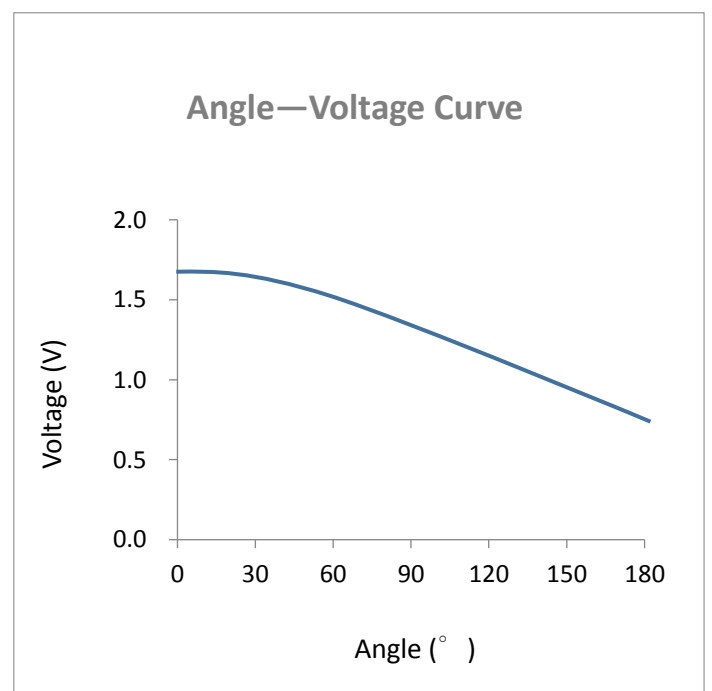
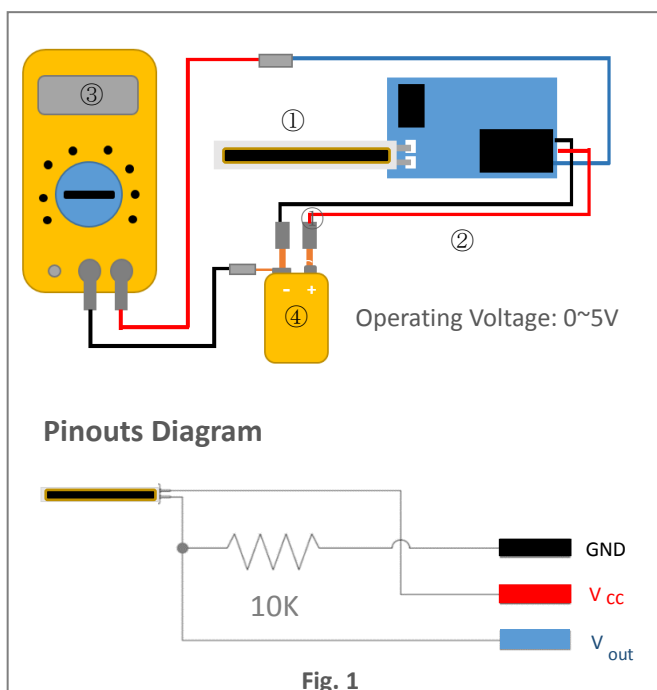
Recommended items

- ③ Voltage meter - 1pc or Oscilloscope - 1pc
- ④ Battery - 1 pc (3.3V~5V)



Standard Setup

Connect the sensor kit to Voltage meter (or Oscilloscope) and battery as shown Fig. 1, when bending the sensor, you can observe the variation between bending Angle and Voltage. Through this sensor kit, the resistance output of the sensor is converted to voltage output. The output of voltage decreased when the sensor is bent at a higher degree. The following is a logarithmic scale of the Angle –Voltage Curve measured from our MB090-N-221-A02 sensor kit.

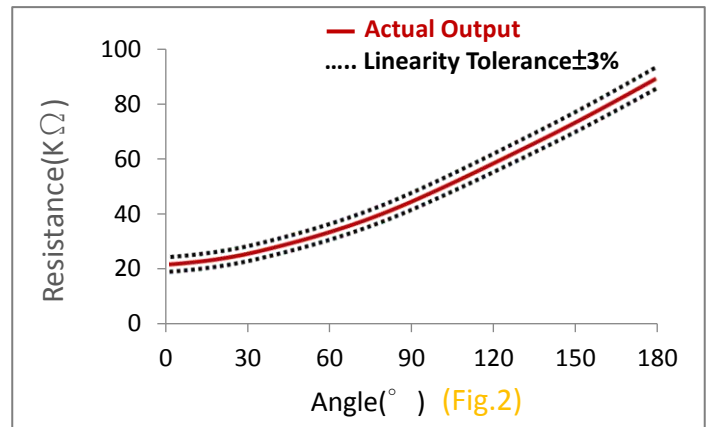


Bending Detection Sensors

High-resolution and durable, Alpha's patented Bending Detection Sensor can detect bend-radius movements via resistance output. It can be used for wearable technology and various applications.

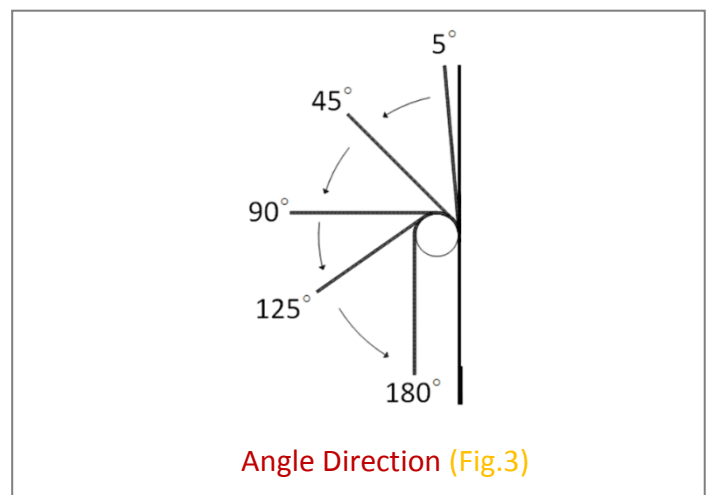
Sensor Characteristics

Figure 2 shows a logarithmic scale of the Angle - Resistance curve measured from the MB090-N-221-A02 sensor. When the sensor is bent at a higher degree, its resistance output increase accordingly.



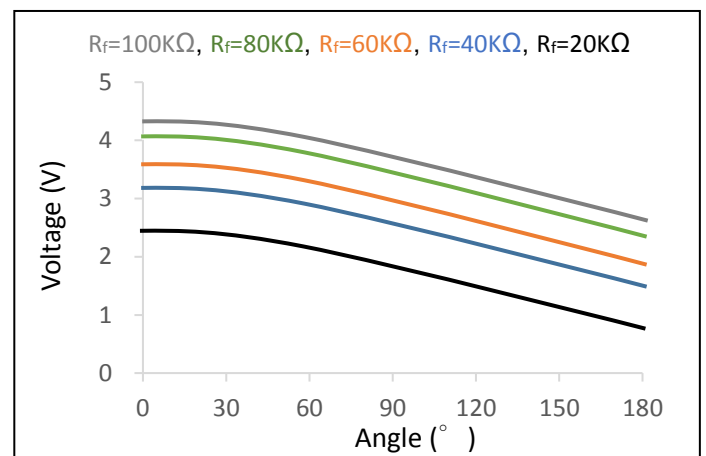
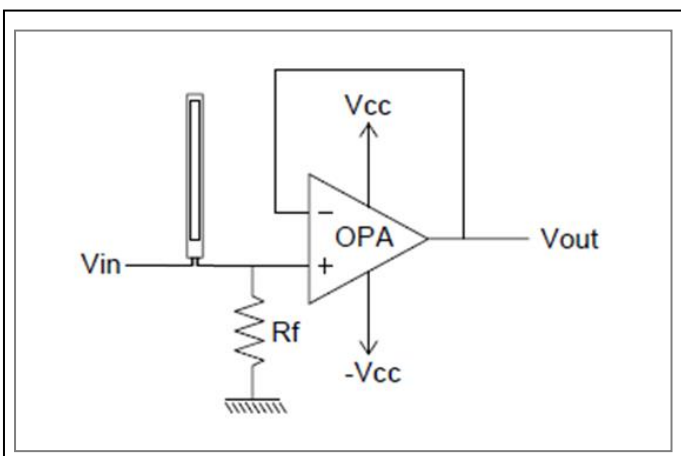
Angle Sensitivity Range and Test Method

The angle detection range is $0^{\circ} \sim 180^{\circ}$ and sensitivity range shown as Figure 3. A bending test is performed using an angle fixture to bend 180° with a center circle diameter of 10mm.



Sample Circuit

Using different fixed resistors can alter the Voltage-Angle curve in order to achieve a desired Angle sensitivity range.



MB090-A02 Sensor Kit




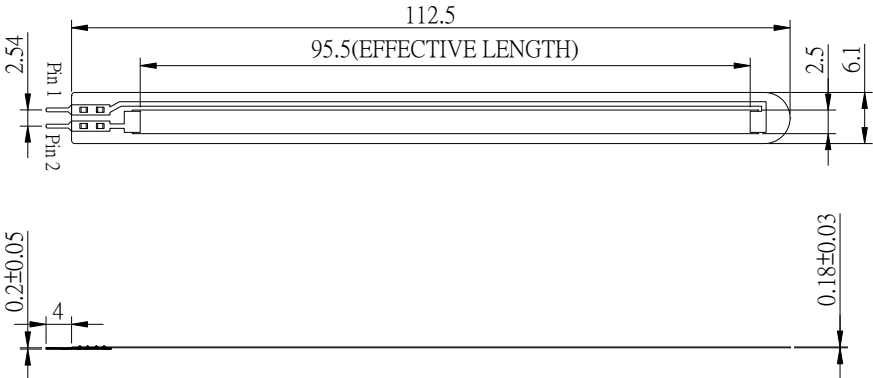
Bending Detection Sensors

Application

- ✓ Rehabilitation, Gaming and many applications.

Feature


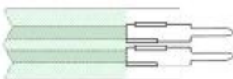
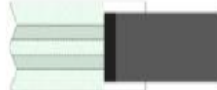
- ✓ Thinner thickness, unaffected by pressure
- ✓ High-resolution and durable
- ✓ Can be fixed on steady and flexible surfaces.

Order Code	Outline Drawing
MB090-N-221-A02 	

SPECIFICATION

MODEL	MB090-N-221-A02
ANGLE RANGE	0° ~ 180°
RESOLUTION	1°
LIFE CYCLE	>1 Million
RESPONSE TIME	< 1ms
OPERATING TEMP	-30° ~ 80°
POWER RATING	0.5 Watt max. @25°C
EFFECTIVE LENGTH	95.5mm

CONNECTOR OPTIONS

Female Contacts 	Solder Tabs (pin) 	Female Contact with Housing 
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Design and specifications presented here are for the standard parts only. Please kindly contact us for your special requests and ask for the current technical specifications before purchase and/or use.