

Membrane Force Sensor

From Design to Manufacturing

A Turn-key Solution Provider

FSR

Force Sensor can detect the change of applied force and be used in pressure measurement in a variety of applications, such as rehabilitation, industrial, automotive, wearable device, VR, etc.

Models

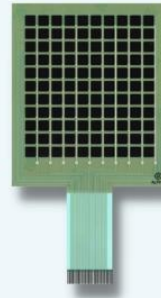
FORCE SENSOR

Detect the change of force and can be used in pressure measurement



PRESSURE SENSOR ARRAY

Multi-touched sensor allow user to detect force (Z) & position (X-Y)



INSOLE PRESSURE SENSOR

Measure foot pressure & pressure distribution



Features



REAL-TIME FEEDBACK



LOW-POWER NEEDED



THIN, LIGHT & FLEXIBLE



CUSTOMIZATION AVAILABLE

Applications



HAND STRENGTH DETECTION



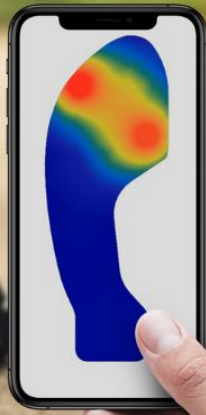
SLEEPING POSTURE MONITORING



FOOT PRESSURE MEASUREMENT



INVENTORY MANAGEMENT

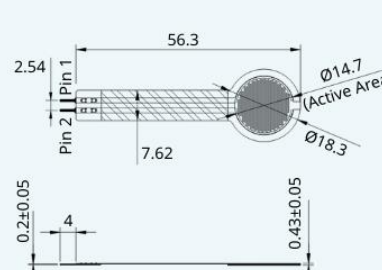
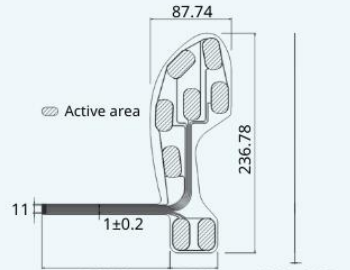
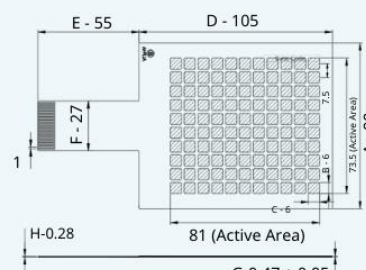


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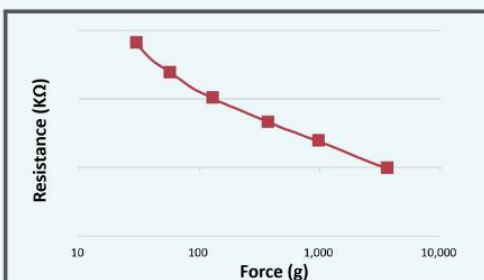
FSR

Specification

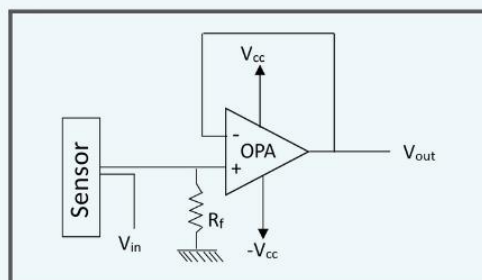
MODEL	MF01A-N-221-A01	MF18-N-0A8-A01	MMS1011-N-026-A01
OUTLINE DRAWING			
SENSITIVITY RANGE	0.3N~9.8N	0.5bar~20bar	0.5N~49N
FORCE REPEATABILITY (SINGLE PART)	2%	5%	2%
FORCE REPEATABILITY (PART TO PART)	5%	30%	10%
FORCE RESOLUTION	Continuous (Analog)	Continuous (Analog)	Continuous (Analog)
STAND-OFF RESISTANCE (UNLOADED)	> 20MΩ	> 20MΩ	> 20MΩ
RESPONSE TIME	< 1ms	< 1ms	< 1ms
OPERATION TEMP	-30°C to +85°C	-20°C to +70°C	-30°C to +80°C
LIFE CYCLE	> 10 million	> 1 million	> 1 million

Standard setup

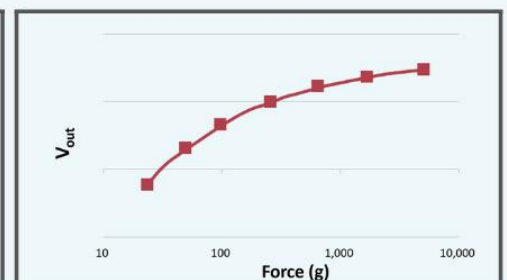
Force-Resistance Curve



Sample Circuit



Force-Voltage Curve



*Design and specifications here are for standard parts and reference only. Please kindly identify any special requests and ask for current specifications before purchase or use.



Stretch & Bend Sensor

From Design to Manufacturing
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Sensor
Wearable
Smart Rehab

STRETCH SENSOR

To measure the amount of extension, which is ideal for wearable devices, motion-monitoring systems, etc.



REAL-TIME
FEEDBACK



EXTENSION
RANGE : 0~100%



THIN, LIGHT
& ELASTIC



CUSTOMIZATION
AVAILABLE

BENDING DETECTION SENSOR

To measure the amount of bending, and will not be affected by the pressure easily, giving users a more reliable data output.



REAL-TIME
FEEDBACK



THIN, LIGHT
& FLEXIBLE



UNAFECTED BY
PRESSURE EASILY.



CUSTOMIZATION
AVAILABLE



VR Controller

Rehab # VR Gloves



Breathing

Motion Monitoring



Joint Rehabilitation

Rehab

WEARABLE TECH.



Stretch & Bend Sensor

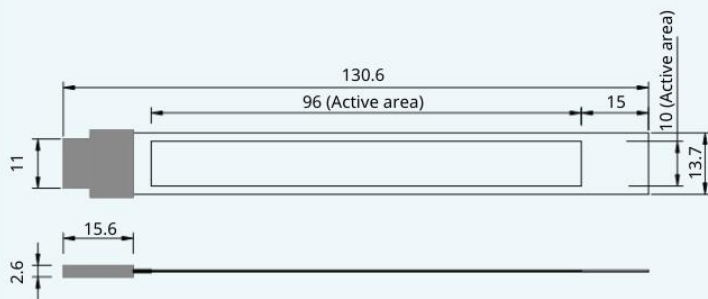
From Design to Manufacturing
A Turn-key Solution Provider

Sensor
Wearable
Smart Rehab

Specification

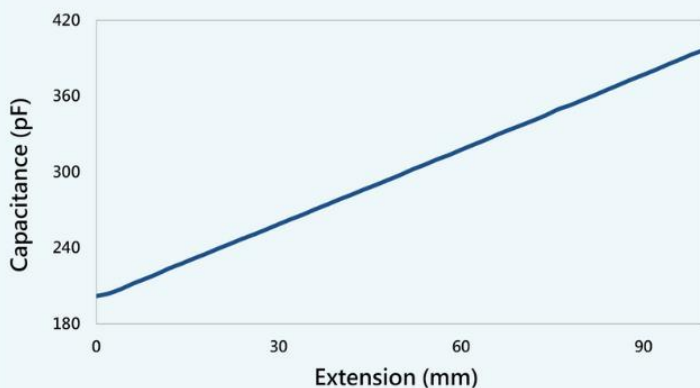
STRETCH SENSOR

EC100-N-421-A01



STRETCHABLE RANGE	0 ~ 100%
ACTIVE SENSING ZONE	96mm * 10mm
CAPACITANCE (UN-STRETCHED)	160pf ~ 240pf
OPERATION TEMP	+10°C ~ +50°C
LIFE CYCLE	500,000 cycles

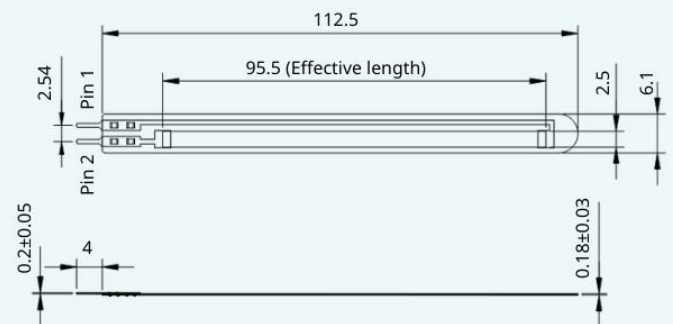
Extension-Capacitance



*Repeatability: $\pm 1\%$

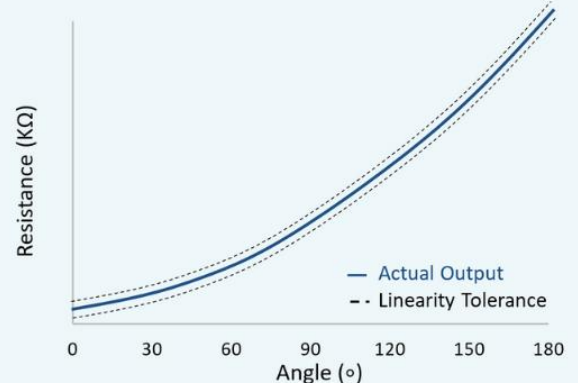
BENDING DETECTION SENSOR

MB090-N-221-A02



ANGLE RANGE	0° ~ 180°
RESOLUTION	1°
RESPONSE TIME	< 1ms
OPERATION TEMP	-30°C ~ +80°C
LIFE CYCLE	> 1 Million

Resistance-Angle



*Repeatability: $\pm 3\%$

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Membrane Position Sensors

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Position sensors, also known as membrane potentiometers, can measure the resistance output corresponding to the position of the applied force, offering a means to assess the position at different points along the sensors' surface.

Models

LINEAR POSITION SENSOR

Detect linear position



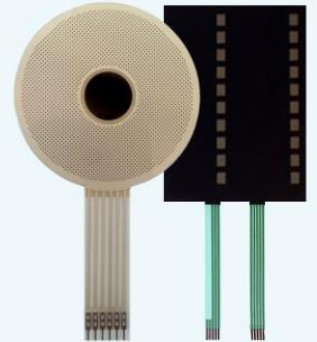
ROTARY POSITION SENSOR

Detect rotary position



FORCE + POSITION SENSOR

Integration of both force and position sensing



Features



SUPERIOR LINEARITY
FROM $\pm 1\%$ TO $\pm 3\%$



LOW POWER CONSUMPTION



THIN, LIGHTWEIGHT & FLEXIBLE

Applications



CONSUMER ELECTRONICS

- Slide-bar control (light & volume)
- Musical devices (mixer)



INDUSTRIAL

- Fluid level monitoring
- Control panel



MEDICAL DEVICES

- Medication volume monitoring (syringe & inhaler)