



Force Sensing Resistor (FSR)

Product Information :

A Force Sensing Resistor (fsr) Is A Thin, Flexible Pressure Sensor That Changes Its Electrical Resistance When Force Or Pressure Is Applied To Its Surface. As Pressure Increases, Resistance Decreases, Providing A Reliable, Repeatable Signal That Can Be Easily Measured And Integrated Into Electronic Systems. Keetronics' FsrS Are Manufactured Using Printed Electronics Technology With High-resistance, Carbon-based Inks. Their Lightweight, Flexible Design Allows Seamless Integration Into Both Rigid And Soft Surfaces, Making Them Ideal For Modern, Compact, And Wearable Devices. These Sensors Are Commonly Used In Applications That Require Touch, Pressure, Or Force Detection—from Robotics And Medical Devices To Smart Surfaces And Consumer Electronics.

SPECIFICATIONS :

- Input Parameter: Applied force
- Output Parameter: Resistance (inverse relationship to applied pressure)
- Operating Voltage : 3 V DC (typical)
- Operating Current : in milliamps (mA range)
- Thickness: Approximately 0.6 mm
- Response Time: 10 milliseconds
- Construction: Multi-layer flexible film with printed carbon-based ink
- Operating Principle: Variable resistance under force
- Customization: Available in various sizes, shapes, and force ranges

Key Features :

- Thin, flexible, and lightweight construction
- Variable resistance output proportional to applied force
- Fast response time and excellent repeatability
- Customizable shape, size, and sensitivity range
- Easy to integrate into flat or curved surfaces
- Manufactured using printed carbon-ink technology
- Compatible with low-voltage electronics
- Durable and reliable over repeated use cycles

Advantages :

- Extremely thin and flexible for easy integration
- Cost-effective and simple to implement
- Highly sensitive and responsive to applied force
- Suitable for a wide range of surfaces and materials
- Enables compact, lightweight, and low-power designs
- Scalable manufacturing using printed electronics processes
- Supported by Keetronics' R&D expertise for tailored sensor performance

Application :

- Robotic fingertips and grippers
- Hand grip and fitness monitoring systems
- Interactive floors and gaming interfaces
- Musical instrument controllers
- Seat and bed occupancy detection
- Podiatry and gait analysis devices
- Medical infusion pumps
- Motor and tool speed controls
- Smart surfaces and security panels

Technical Specifications :

Model Number	PE-FSR
Category	Functional Printed Electronics