

Sensitivity in  
a pressurized  
world.

Prescon™ Pressure Sensors



Ideas into reality.



## Prescon Pressure Sensors

Prescon sensors are polymer-composite flexible thick film devices that exhibit decreasing resistance as increasing pressure is applied to the sensing area.

- Reach new heights in pressure sensing devices and systems
- Adaptable to ever changing application requirements
- State-of-the-art advanced technology
- Highly reliable, precise, and customizable
- Proven in labs and end user applications
- Engineered for flexible integration
- Customized range of resistance values





## Superior engineering and manufacturing

Our experienced engineers are committed to providing state-of-the-art, low profile, cost-effective pressure sensors. We work with companies to provide custom sensing solutions for a wide range of OEM applications and products.



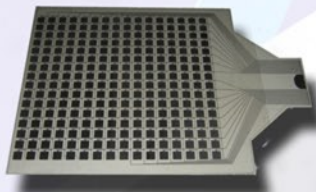
## Applications

The potential is endless, the possibilities are as broad as your imagination!

- Automotive
- Computers
- Communications
- Education
- Medical
- Security
- Sports
- Toys
- Virtual Reality



## Custom sensor examples



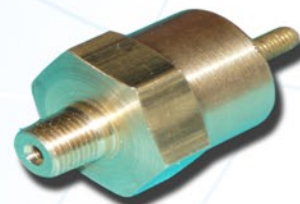
seat array



aviation brakes



surgical and joint sensor



engine oil pressure sensor with prescon technology

## About IMR

Founded in 1984, headquartered in Nampa, Idaho, International Micronanoelectronics Research Corporation provides state-of-the-art research and manufacturing of Prescon sensors, electronics inks and materials and other precious metal products.

Contact us today to explore the possibilities!



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prescon

## Flexible pressure-sensing resistor gives a hand to virtual reality

Flexible versions of the sensor have been adapted for use in virtual reality equipment. These devices can be made to have a constant resistance output while flat, or they can represent an open circuit. Once the sensor begins to bend, it provides decreasing resistance values (or increasing conductivity). The more flex the greater the drop in resistance.



## Technical specifications

The Prescon sensor converts variable pressure fields to a variable resistance output in ohms. As pressure is applied to the sensing area, a circuit closes and the resistance values decrease. Certain models can measure 0.035 - 0.0035 psi, depending on the materials of fabrication. Some versions will activate in the presence of a magnetic field and give an ohmic response indicating the relative field intensity. The sensors are also available in a design that gives variable resistance output with positive and negative pressures (e.g. push-pull).

## Physical attributes

|              |                                     |                                 |                      |
|--------------|-------------------------------------|---------------------------------|----------------------|
| Size range   | Min. .04" x .04"                    | Max. 50" x 50" (127cm x 127 cm) | No shape limitations |
| Thickness    | .004" to .050" (0.1mm to 1.27mm)    |                                 | Material dependant   |
| Sensing area | Min. .02" x .02"                    | Max 48" x 48" (122cm x 122cm)   | No shape limitations |
| Connectivity | Standard connectors Solderable tabs |                                 | Viable methods       |

## Performance

|   |   |                 |   |
|---|---|-----------------|---|
| Sensitivity                               | Min. 1 gram   | Max. 10,000 lbs | Dependent on mechanics                        |
| Linearity                                 | < $\pm$ 3%  |                 |   |
| Resistance Value                          | Any resistance available Standard decade resistance                                       |                 |   |
| Part to Part & lot to lot reproducibility | $\pm$ 5%  |                 | Repeatable actuation                          |
| Hysteresis                                | 3% to 5%  |                 | Dependent on design and operating application |
| Device response time                      | < 4 microseconds  |                 | Dependent on operating application            |
| Operating temperature                     | -60° C to 220° C available<br>225° C to 450° C in development                             |                 | Material dependent                            |
| Shock resistance                          | Will take 5 million consecutive hits by a 50 gram mass moving at 300 mph with no failures |                 |   |
| Humidity moisture resistance              | Hermetically sealed sensors available   |                 |   |