



Sensors

Pressure Sensor Mechanism

RFID wireless pressure sensor

The Pressure Sensor Mechanism is designed to measure or monitor tactile pressure. It is based on passive Radio Frequency Identification (RFID) sensor tags and is applicable to a variety of systems. As RFID sensors transmit information wirelessly, they eliminate many challenges associated with traditional wired systems such as bridging joints, reliability, volume, and mass. Innovators at NASA Johnson Space Center are using this technology in robotic systems for pressure sensor monitoring. The RFID Pressure Sensor Mechanism has the potential to be easily integrated in mechanical systems to wirelessly and autonomously communicate pressure changes back to a monitoring system without an external power supply.

This NASA Technology is available for your company to license and develop into a commercial product. NASA does not manufacture products for commercial sale.

BENEFITS

- Reduces Complexity - simple setup, reduces the number of cables needed for integration
- Cost effective - Compatible with commercially available passive or active RFID tag systems. Can be used with older devices as well
- Widely Applicable - Can be used in different industries and in combination with other RFID technologies
- Durable Long lasting and rugged enough for a wide variety of settings

technology solution

THE TECHNOLOGY

In operation, this RFID-enabled patented technology reacts to a pressure change causing the passive tag to generate an electromagnetic field. The RFID pressure sensor/passive tag reacts to the electromagnetic field and responds by sending a signal to an interrogator. The interrogator receives the reflected signal, measures the returned signal strength indications ("RSSI") of the reflected signal and sends the RSSI measurements and identification of the responding RFID sensors to the processor to determine the pressure. Potential applications for this technology include remote patient mobility monitoring, robotic control systems, and pressure sensing gloves. Older devices may also be outfitted with these sensors to add pressure-monitoring functionality while avoiding the cost of a total system replacement.



The RFID Pressure Sensor Mechanism can be used for remote monitoring of health patient activity.

APPLICATIONS

The technology has several potential applications:

- ➔ Robotics
- ➔ Manufacturing
- ➔ Health - remote health patient monitoring
- ➔ Security Systems
- ➔ Mechanical Systems

PUBLICATIONS

Patent No: 9305252; 9785877; 8,985,468

National Aeronautics and Space Administration

Agency Licensing Concierge

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