MEMS based Pressure Transducer

Indian Space Research Organisation (ISRO) at its Liquid Propulsion Systems Centre has developed a novel MEMS Pressure Transducer, which will find wide industrial and commercial applications.

Principle of Operation

MEMS Stands for Micro Electro Mechanical System. In the MEMS pressure transducer the Silicon technology integrates the mechanical sensing with the signal conditioning electronics making the sensor highly compact and equally accurate. In addition to its reduced weight the sensor requires only lesser power and offers high system reliability. These sensors are fabricated fully with stainless steel material and are hermitically sealed using EB welding process.

Advantages & Salient Features

- Low power
- High accuracy
- Miniature / Low cost
- Less Weight
- High output
- Extremely low hysteresis
- Shock and vibration resistant
- High dynamic response
- High long term stability
- Suitable for low pressure measurement with high accuracy

Application

- Suitable for control systems in all industries
- Automotive
- Defence
- Oceanography
- Atomic
- Vacuum pressure measurement
- Process and chemical Industries
- Automatic weather stations
- Space applications

Specifications

Pressure Range	1 bar to 250 bar (Absolute)
Excitation	5 $^{+0.1}_{-0.0}$ V DC
Output Span	4 $^{+0.1}_{-0.0}$ V DC (Optional)
Sensitivity	3.9 to 4.1 V/bar (Optional)
Accuracy	
Non Linearity + Hysteresis	< 0.3% FSO
Mass	75 gms
Dimensions	Ø25 x 55 mm length max
Electrical interface	Multipin hermetically sealed connector.

Technology Transfer from ISRO

ISRO is willing to offer the knowhow of this technology to suitable entrepreneurs / industries in India. Capable manufacturing industries interested in acquiring this knowhow may write with details of their present activities, requirements and plans for implementation, infrastructure and technical expertise available with them, their own market assessment, if any, and plans for diversification to the address given below: