Millar | OEM Solutions

MEMS Pressure Sensors

Even the smallest technology can have an enormous impact on the human condition.

Millar's MEMS pressure sensor technology integrates into medical devices enhancing insights and providing medical innovators with solutions to deliver clear, continuous, real-time data to improve the health of mankind.

Creating new possibilities in advanced medical pressure measurements.

Millar® MEMS Pressure Sensor Technology

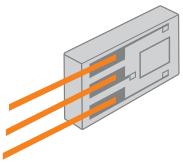
Microelectromechanical systems (MEMS) integrate mechanical elements, sensors, actuators and electronics through the latest microfabrication technology. These high-performance, medically proven sensors can seamlessly integrate with a wide range of medical devices and life sciences technologies that are driving the next wave of lifesaving medical innovation.

MEMS Pressure Sensor Integration

Proper integration of the sensor is critical to the performance of the sensor and ultimately, the device. Through feasibility studies, fit for purpose solutions and production of prototypes, Millar is quick to solve integration challenges to reduce the timeline from concept to testing.

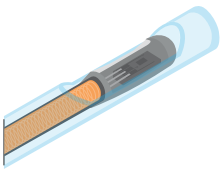
Millar® MEMS Manufacturing

Leveraging our ISO 13485 certification and over 50 years of MEMS device manufacturing expertise, Millar OEM Solutions partners with companies to design, build, customize and market MEMS-based devices. This core technology can be configured to various stages of completion, resulting in reduced cost and rapid time to market for device integration.



MEMS Sensor

MEMS Module/ Cath



MEMS Integration

millarOEM.com/mems

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OEM Partnership Journey

Millar OEM Solutions provides end-to-end design, sensor component prototyping, manufacturing and account support for MEMS-based devices.

1. Discovery
2. Proof of Concept
3. Prototype Development
4. Manufacturing Development
5. Clinical Engineering
6. Commercial Manufacturing
7. Sustaining Engineering Services

MEMS Pressure Sensor Module and Catheter Specifications

	Absolute Piezoresistive Sensor 2F Sensor
Pressure Range	500 to 1000 mmHg absolute
Drift*	Max <3 mmHg over 23 hours
Temperature Error Band	±3 mmHg (±0.4 kPa) BSL, 23-38°C (At Zero Pressure)
Accuracy Error**	< +/- 3% over the range -30 to 300 mmHg applied pressure
Signal Interface	**Analog**: Differential voltage output | **Digital**: 12C output

*Drift data calculated from production level MEMS catheters following a 30-min presoak in room temperature water and subject to normal room temperature and corrected for barometric changes.
**Accuracy per AAMI BP22

	Gauge Piezoresistive Sensor 3F Sensor
Pressure Range	-50 to +300 mmHg (-6.7 to 40kPa)
Drift*	Average = 0.89 ± 0.44 mmHg over 7 days Max <2.5 mmHg over 7 days Max <5 mmHg over 30 days
Temperature Error Band	±1 mmHg (±0.13 kPa) BSL, 23-38°C (At Zero Pressure)
Accuracy Error**	< +/- 3% over the range -30 to 300 mmHg applied pressure
Signal Interface	**Analog:** Differential voltage output | **Digital:** 12C output

*Drift data calculated from production level MEMS catheters following a 30-min presoak in room temperature water and subject to normal room temperature and barometric changes.
**Accuracy per AAMI BP22

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