Millar | OEM Solutions

MEMS Pressure Sensors

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

Millar's patented MEMS pressure sensor provides a unique opportunity to enhance the capabilities of existing medical technology, providing medical innovators with novel solutions to deliver precise, continuous, real-time insights for today's pressing healthcare problems.

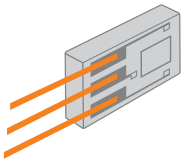
Creating new possibilities in advanced pressure measurements.

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 into a wide range of medical devices and life sciences technologies that are driving the next wave of lifesaving medical innovation.

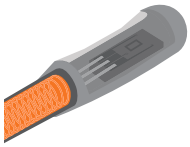
Millar® MEMS Manufacturing

Leveraging our ISO 13485 certification and more than 45 years of MEMS 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



MEMS Cath

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OEM Partnership Journey

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

1. Opportunity Assessment
2. Proof of Concept
3. Clinical Trials
4. Design Control
5. Manufacturing Development
6. Product Management
7. Licensing

MEMS Pressure Sensor Module and Catheter Specifications

	1F or 2F Module/Catheter (1F Sensor Compatible)	3F Module/Catheter (3F Sensor Compatible)
Sensor Type	Diffused semiconductor, piezoresistive	
Pressure Range	-50 to +300 mmHg (-6.7 to 40kPa)	
Overpressure	+4000 mmHg (+530 kPa), -760 mmHg (100 kPa)	
Rated Excitation*	2.5–7.5 VDC or VAC rms	
Sensitivity	5 µV/V/mmHg, nominal (37.6 µV/V/kPa)	
Temperature Error Band (At Zero Pressure)	±3 mmHg (±0.4 kPa) BSL, 23–38°C	±1 mmHg (±0.13 kPa) BSL, 23–38°C
Linearity and Hysteresis (Combined)	±1%, BSL of full scale	±0.5%, BSL of full scale
Drift	<6 mmHg (0.8kPa) in 12 hours	
Natural Frequency	≥10 kHz	
Bridge Resistance	1000 ohms (nominal)	
Reference Pressure	Atmosphere	
Electrical Leakage	<10 µA at 180 VDC 10 µA at 120 VAC	<10 µA at 600 VDC 10 µA at 120 VAC
Zero Offset	<±50 mmHg (±6.7 kPa)	

* Performance specifications are for 5 VDC excitation.
Transient voltages up to 20 V will not damage the transducer.
Note: These specifications are catheter based using Millar compensation circuitry.

Contact us for a Developer's Kit:
partner@millarOEM.com | T: +1 832-667-7000

Millar, Inc. Headquarters
6001-A Gulf Freeway | Houston, TX 77023 USA
T: 1-800-669-2343 (US Only) | F: +1 713-714-8497