

## XPM4 Miniature Pressure Transducer



- Absolute, sealed and gauge ranges  
5 to 200 bars [75 psi to 3 000 psi]
- Titanium device
- Cable or connector output
- For static and dynamic applications
- Linearity up to  $\pm 0.35\%$  F.S.

### DESCRIPTION

The **XPM4** is a miniature transducer designed to measure static and dynamic pressure under a wide variety of conditions, including hostile environments. The all-titanium construction and flush diaphragm protect the sensor against most corrosive environments.

The **XPM4** incorporates Measurement Specialties, Inc. cutting-edge SanShift™ technology, which virtually eliminates zero shifts caused by installation torque.

The **XPM4**'s sensing element is a fully temperature compensated Wheatstone bridge configuration made with high stability micro-machined silicon strain gauges which optimize performance, especially at low ranges and high frequencies. All models come with a cable output strengthened by a strain relief spring or with an electrical connector (optional).

With many years of experience as a designer and manufacturer of sensors, Measurement Specialties, Inc. often works with customers to design or customize sensors for specific uses and testing environments. To meet your needs we also offer complete turnkey systems. The matched components (sensor, power, amplifier and digital display) are formatted, calibrated and ready for immediate use.

### FEATURES

- Flush Diaphragm, All-Titanium Construction
- Low Installation Torque Sensitivity
- M4x0.7 thread
- Linearity up to  $\pm 0.35\%$  F.S.
- For Static and Dynamic Applications

### APPLICATIONS

- Aerospace
- Explosion test benches
- Oven monitoring equipments
- Robotics and effectors
- Laboratory and research

### STANDARD RANGES

Ranges in bar	5	10	20	35	50	100	200
Ranges in psi	75	150	300	500	750	1500	3000
Natural frequency (in kHz)	249	249	299	299	374	474	673

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### PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1 ° C

PARAMETERS	
Operating Temperature Range (OTR)	-40 to 120 ° C [-40 to 248 ° F]
Compensated Temperature Range (CTR)	0 to 60 ° C [32 to 140 ° F]
Zero Shift in CTR	<2.5% F.S./50 ° C [1/100 ° F] (<7% for 5 bar [75 psi] model)
Sensitivity Shift in CTR	<2% of reading /50 ° C [1/100 ° F]
Range (F.S.)	See standard ranges table
<b>Tightening Torque</b>	
Nominal (zero and sensitivity shift <1%)	1.8 N.m [15 Lbf.in]
Maximal	3 N.m [25 Lbf.in]
<b>Over-Range</b>	
Without Damage	2 x F.S.
Without Destruction	5 x F.S.
<b>Accuracy</b>	
Linearity	±0.35% F.S. (±0.5% for 5 bar [75 psi] model)
Hysteresis	±0.25% F.S.
Repeatability	±0.2% F.S.

### Electrical Characteristics

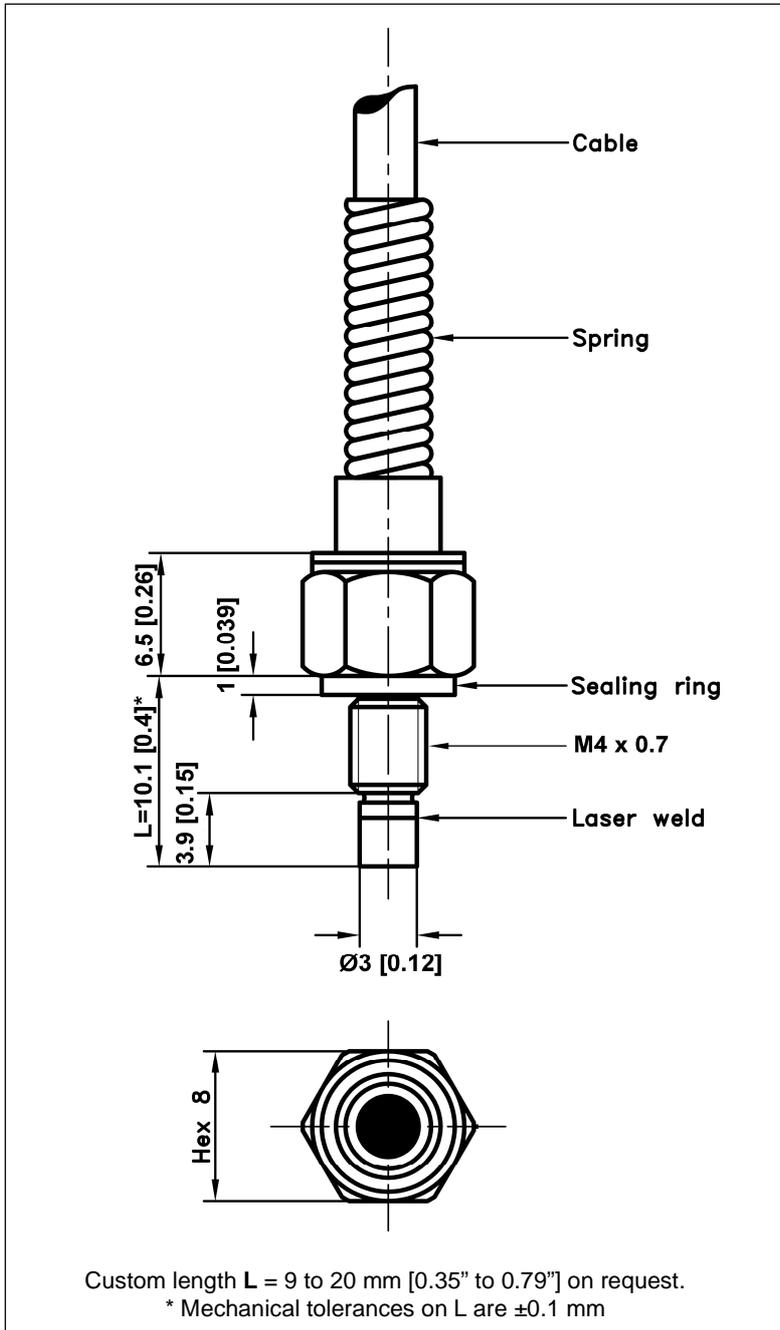
Model	XPM4
Supply Voltage	10Vdc
F.S. Outputs	Model 5 bar [75 psi] ; 30mV Model 10 bar [150 psi] ; 60mV Model > 10 bar [>150 psi] ; 100mV
Zero Offset	<±10mV
Input Impedance/Consumption	1500 Ω
Output Impedance	800 Ω
Insulation under 50Vdc	≥100MΩ

### Notes

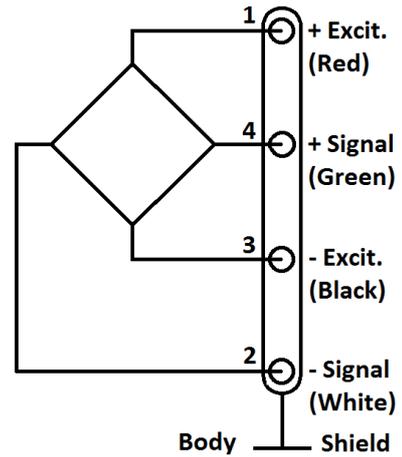
1. Electrical Termination: Shielded Ø3 mm cable with 4 wires (AWG30), standard length 2.0 m [6.6 ft] with strain relief spring
2. Material: Body and flush diaphragm in titanium; laser welded
3. Protection Index: IP50
4. Resonance Frequency: 200-750kHz depending on F.S.
5. Self-centered, sealing ring supplied with the sensor
6. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

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## DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



Wiring Schematic



Dimensions in mm [inch]

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### OPTIONS

<b>A</b> : Absolute
<b>G</b> : Gauge
<b>S</b> : Sealed Gauge
<b>HA</b> : Accuracy (CNL&H) $\leq \pm 0.35\%$ F.S. ( $\leq \pm 0.5\%$ for 5 bar [75 psi] model)
<b>SI</b> : Sensitivity shift in CTR $\leq 1\%$ of reading / 60 ° C [90 ° F] (except 5 bar [75 psi] model)
<b>ZI</b> : Zero shift in CTR $\leq 1.5\%$ F.S. / 60 ° C [140 ° F] (except 5 bar [75 psi] model)
<b>ET1</b> : CTR -20 to 100 ° C [-4 to 212 ° F]
<b>ET3</b> : CTR -40 to 150 ° C [-40 to 302 ° F] OTR=CTR
<b>SC</b> : Connector output, prewired, cable length 2 m [6.6 ft]
<b>P5</b> : IP65 protection (available only for Absolute and Sealed Gauge versions)
<b>P7</b> : IP67 protection (available only for Absolute and Sealed Gauge versions)
<b>L00M</b> : special cable length, replace "00" with total length in meters

### ORDERING INFO

