

# XPM5 Miniature pressure sensor



- Absolute, sealed and gauge ranges  
2 to 350 bars [30 psi to 5 000 psi]
- Titanium device
- High level output in option
- For static and dynamic applications
- Linearity up to  $\pm 0.25\%$  F.S.

## DESCRIPTION

The XPM5 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 allow the sensor to withstand most corrosive liquids.

The XPM5 incorporates Measurement-Specialties' cutting edge SanShift™ technology, which virtually eliminates zero shifts caused by installation torque.

The XPM5's sensing element is fitted with a fully temperature compensated Wheatstone bridge equipped with high stability micro-machined silicon strain gauges which optimize performance, especially at low ranges and frequencies. An on-board A1 or A2 amplifier for high level output is optionally available for all ranges, and an electrical connector interface is available for the standard low level output version.

With many years of experience as a designer and manufacturer of sensors, Measurement Specialties, Inc. has the expertise to customize and/or design sensors for specific uses and testing environments. To meet your needs we also offer complete turnkey systems. Our conditioning electronics can power the sensor, amplify the electronic signal, and display the data digitally. A turnkey measurement system arrives with matched components, formatted, calibrated and ready for your immediate use.

## FEATURES

- Flush Diaphragm
- Low Installation Torque Sensitivity
- M5 thread
- High Level Tension Output Available
- For Static and Dynamic Applications

## APPLICATIONS

- Corrosive and explosive liquids regulation
- Extreme Miniature Devices
- Onboard equipment monitoring
- Breaking system pressure
- Laboratory and research

## STANDARD RANGES

<b>Range in bar</b>	0-2	0-5	0-10	0-20	0-35	0-50	0-100	0-200	0-350
<b>Range in psi</b>	0-30	0-75	0-150	0-300	0-500	0-750	0-1500	0-3000	0-5000

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## CHARACTERISTICS

**Ambient Temperature: 20±1°C (unless otherwise specified)**

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% F.S./60 ° C [108 ° F] - <7% for 2bar [30psi] model
Sensitivity Shift in CTR	<2% of reading /60 ° C [108 ° F]
Range (F.S.)	See standard ranges table
Tightening Torque	
Nominal (zero and sensitivity shift <1%)	1.8 N.m [15 Lbf.in]
Maximal	3 N.m [25 Lbf.in]
Over-Range	
Without Damage	2x F.S
Without Destruction	5xF.S.
Accuracy	
Linearity	±0.25% F.S. for ≥ 10bar [150psi] model ±0.35% F.S. for <10bar [150psi] model
Hysteresis	±0.25% F.S
Repeatability	±0.2% F.S

### Electrical Characteristics

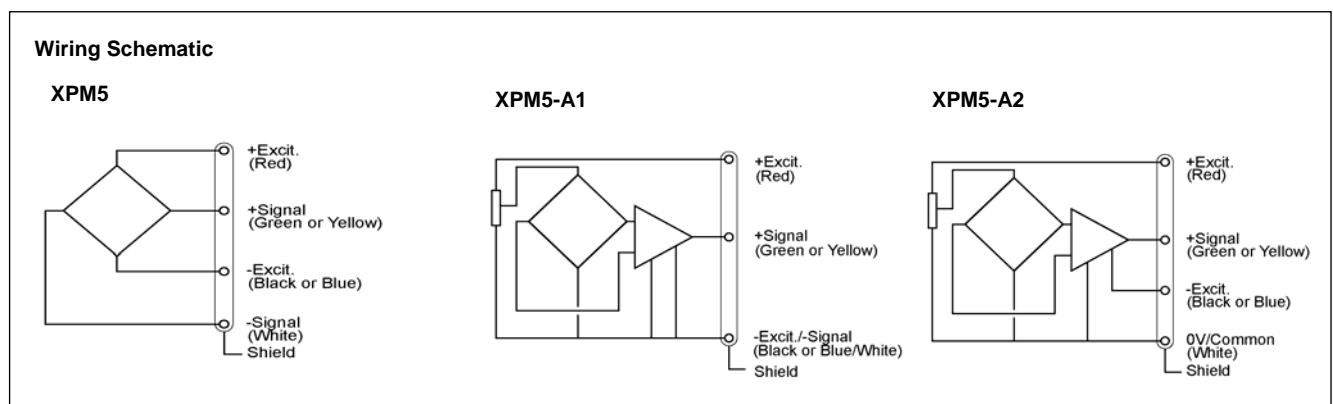
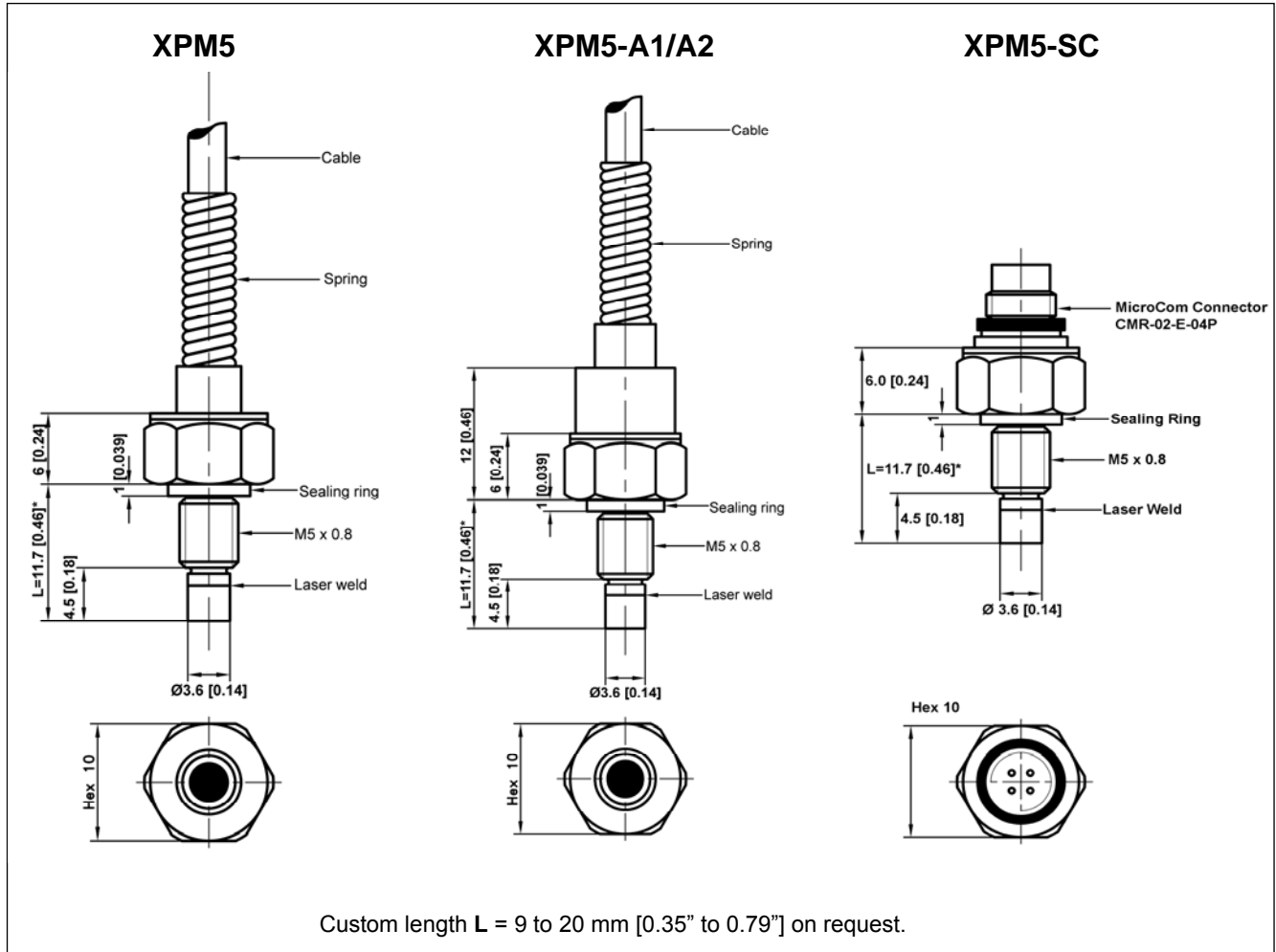
Model	XPM5	XPM5-A1	XPM5-A2
Power Supply	10 Vdc	10 to 30 Vdc	±15 Vdc (±12 to ±18 Vdc)
F.S. Output (2bar model)	30 mV typical	4 V ±5% F.S.	5 V ±5% F.S.
F.S. Output (>2bar model)	100 mV typical	4 V ±5% F.S.	5 V ±5% F.S.
Zero Offset	<±10 mV	0.5 V ±5% F.S.	0 V ±5% F.S.
Input Impedance/Consumption	1500 Ω	<25 mA	<25 mA
Output Impedance	800 Ω	<10 Ω	<10 Ω
Insulation under 50Vdc	≥100 MΩ	≥100 MΩ	≥100 MΩ

### Notes

1. Electrical Termination: Shielded Ø3 mm Silastene cable with 4 Teflon 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: 100-800kHz depending on range
5. Self-centered, sealing ring

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## DIMENSION & WIRING SCHEMATIC (IN METER AND IMPERIAL)



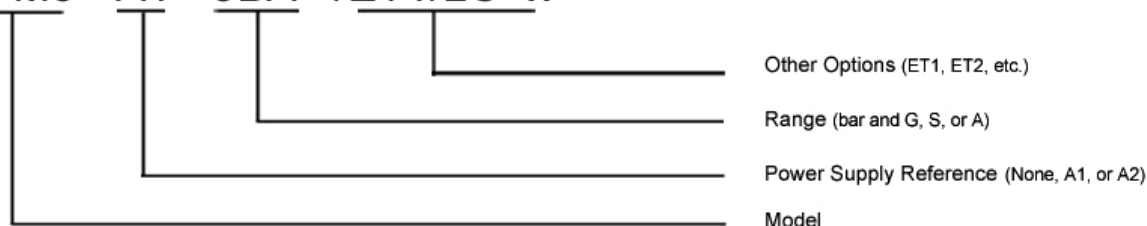
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## OPTIONS

<b>A</b> : Absolute
<b>G</b> : Gauge
<b>S</b> : Sealed Gauge
<b>A1</b> : Unipolar Tension (except for 2 bar model)
<b>A2</b> : Bipolar Tension (except for 2 bar model)
<b>HA</b> : Accuracy (CNL&H) $\leq \pm 0.25\%$ F.S. ( $\leq \pm 0.35\%$ for $\leq 10$ bar [150psi] models)
<b>SI</b> : Sensitivity shift in CTR $\leq 1\%$ of reading / $60^\circ\text{C}$ [ $108^\circ\text{F}$ ] (except for 2 and 5 bar [30, 75 psi] models)
<b>ZI</b> : Zero shift in CTR $\leq 1.5\%$ F.S. / $60^\circ\text{C}$ [ $108^\circ\text{F}$ ] (except 2 and 5 bar [30, 75 psi] models)
<b>ET1</b> : CTR $-20$ to $100^\circ\text{C}$ [ $-4$ to $212^\circ\text{F}$ ]
<b>ET3</b> : CTR $-40$ to $150^\circ\text{C}$ [ $-40$ to $302^\circ\text{F}$ ] OTR=CTR (not available with A1 and A2 options)
<b>SC</b> : Connector output, prewired, cable length 2 m [6.6 ft]
<b>P5</b> : IP65 protection
<b>P7</b> : IP67 protection
<b>LC"X"</b> : Additional Cable length in meter ("X" = custom value)

## ORDERING INFORMATION

XPM5 - A1 - 5BA - /ET1/LC "x"



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