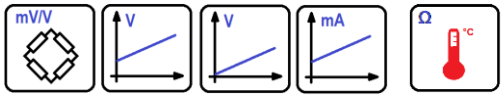


XPM10

Miniature pressure sensor

SPECIFICATIONS

- **Ranges 1 to 350 bars [15 psi to 5 000 psi]**
- **Absolute, sealed and gauge ranges**
- **Amplified output available**
- **Linearity up to ±0.25% F.S**

FEATURES

- Stainless steel
- M10x1 thread
- For Static and Dynamic Applications
- Low Installation Torque Sensitivity

APPLICATIONS

- Hydraulic regulation process
- Explosion test benches
- Breaking system pressure
- Laboratory and research

The **XPM10** is a miniature transducer designed to measure static and dynamic pressure under a wide variety of conditions, including hostile environments. It is made of stainless steel or titanium and is available in standard ranges from 0-1 to 350 bars [15 up to 5000 psi].

The **XPM10** incorporates Measurement Specialties' cutting edge SanShift™ technology, which virtually eliminates zero shifts caused by installation torque.

A **PT1000** temperature probe is optionally available as a custom design.

The **XPM10** may integrate different electronics for amplified outputs: **A1** 0.5-4.5V, **A2** ±5V, **A3** 4-20mA.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

STANDARD RANGES

Full Scale (FS)		Pressure Reference			Resonnant Frequency	Sensitivity "FSO"	Overpressure	Burst Pressure
bar	psi	Gauge	Abso.	Sealed		(non amplified)	(rated pressure)	(rated pressure)
1	15	♠	♠	♠	30 kHz	5 mV/V	2 x FS	5 x FS
2	30	♠	♠	♠	30 kHz	10 mV/V	2 x FS	5 x FS
5	75	♠	♠	♠	35 kHz	10 mV/V	2 x FS	5 x FS
10	150	♠	♠	♠	50 kHz	10 mV/V	2 x FS	5 x FS
20	300	♠	♠	♠	69 kHz	10 mV/V	2 x FS	5 x FS
35	500	♠	♠	♠	79 kHz	10 mV/V	2 x FS	5 x FS
50	750	♠	♠	♠	109 kHz	10 mV/V	2 x FS	5 x FS
100	1.5K			♠	154 kHz	10 mV/V	2 x FS	5 x FS
200	3K			♠	218 kHz	10 mV/V	2 x FS	5 x FS
350	5K			♠	288 kHz	10 mV/V	2 x FS	3 x FS

Useful frequency is 20% of Resonant Frequency. Bandwidth 3 kHz for amplified model (A1, A2 and A3 option)

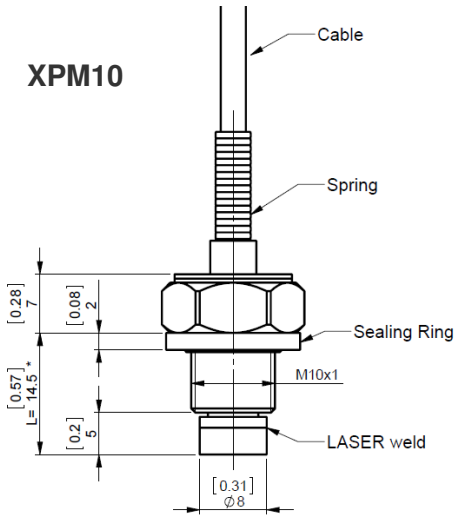
PERFORMANCE SPECIFICATIONS (all values are typical at ambient temperature 23±3°C)

Parameters	Non amplified	Amplified A1	Amplified A2	Amplified A3	Notes
Power supply	10 Vdc regulated	10 to 30 Vdc	±12 to ±18 Vdc	10 to 26 Vdc	A3 version uses a 2 wires circuit
Sensitivity "FSO"	Previous table	4 V ±0.2 V	5 V ±0.2 V	16 ±0.4 mA	
Zero Offset	<±1 mV/V	0.5 V ±0.2 V	0 V ±0.2 V	4 ±0.4 mA	
Non Linearity	±0.35%FS ±0.25%FS				FS = 1 bar or 15 psi FS ≥ 2 bar or 30 psi
Hysteresis	±0.25%FS				
Repeatability	±0.2%FS				
Operating Temperature (OTR)	-40 to 120°C (-40 to 250°F)	-40 to 80°C (-40 to 176°F)		-20°C to 80°C (-4°F to 176°F)	
Compensated Temperature (CTR)	0 to 60°C (32 to 140°F)				
Thermal Zero Shift in CTR	±3%FS/50°C ±2%FS/50°C				FS = 1 bar or 15 psi FS ≥ 2 bar or 30 psi
Thermal Sensitivity Shift in CTR	±2% of reading /50°C				
Input Impedance or consumption	500 Ω to 1500 Ω	< 30 mA			
Output Impedance	500 Ω to 800 Ω	1000 Ω			
Ingress Protection	IP50 IP67				Standard or SC P7 option
Media – Pressure Port	Fluids compatible with Stainless steel				

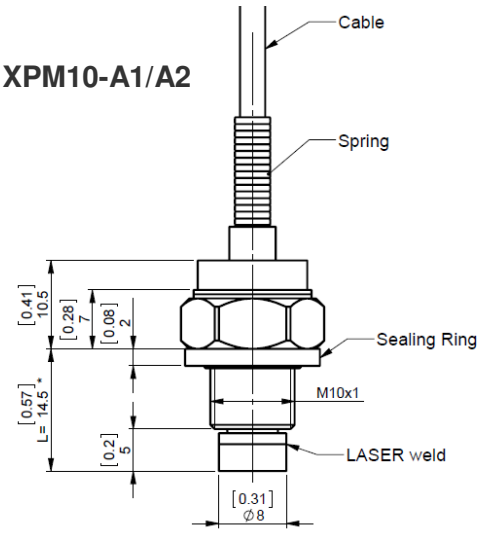
Insulation under 50Vdc ≥100MΩ
CE certification according to EN 61010-1, EN 50081-1, EN 50082-1.

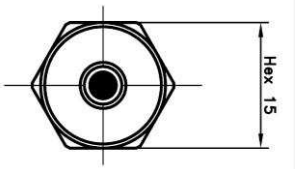
DIMENSIONS & WIRING SCHEMATIC (METRIC & IMPERIAL)

XPM10

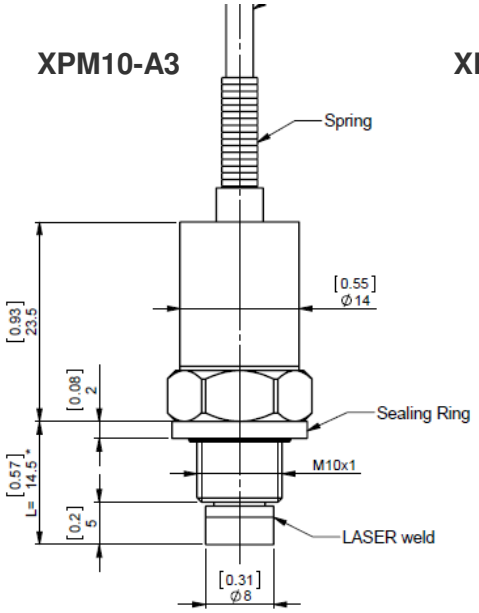


XPM10-A1/A2

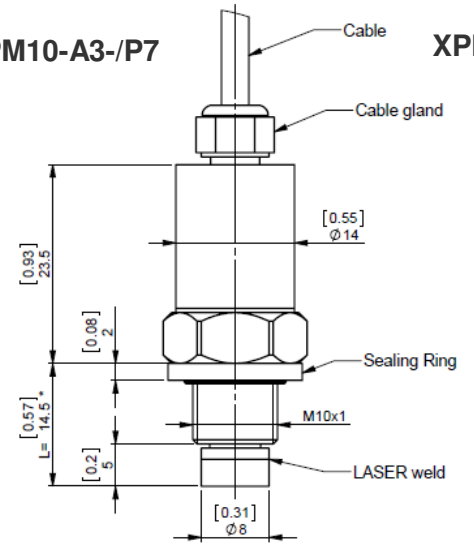




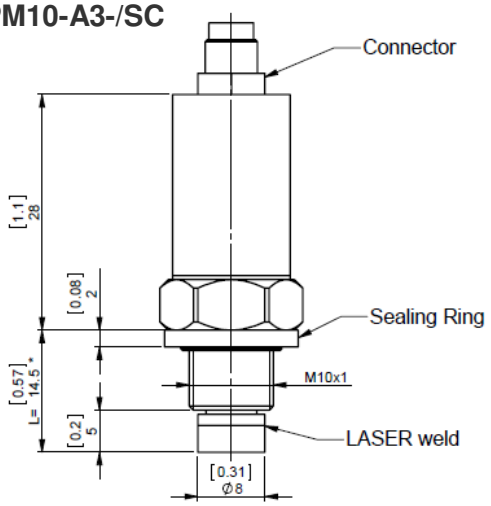
XPM10-A3



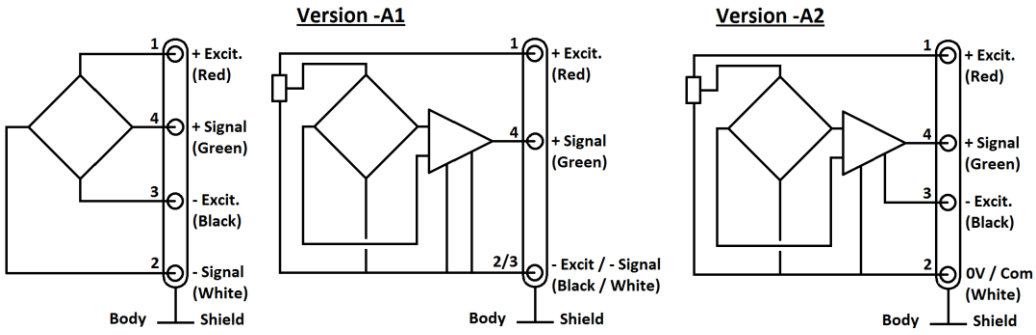
XPM10-A3-/P7



XPM10-A3-/SC



Wiring Schematic



1. Recommended Tightening Torque: 4 to 10 Nm (44 to 88 lbf.in) for FS ≤5 bar or 75 psi
   10 to 15 Nm (88 to 132 lbf.in) for FS ≥ 5 bar or 75 psi
2. Sealing: One FKM ring Ø 16x2 is supplied with sensor. Operating temperature is -30°C to 200°C [-20°F to 390°F] static
3. Electrical connection: Standard = 2m of shielded sable ø3mm with 4 wires AWG30, Silicon jacket
   SC option = Integral connector ref. OMNETICS CMR-02D-04P supplied with mating plug CMR-02-B-04S wired with 2m of cable (FMC-COM-4B-L2M)

OPTIONS

HA : High Accuracy (CN L&H) ≤±0.25% F.S. (≤±0.35% F.S. for 1 bar [15psi] model)
SI : Sensitivity shift in CTR ≤1% of reading / 50 ° C [/100 ° F] (except 1 and 2 bar [15, 30 psi] models)
ZI : Zero shift in CTR ≤1.5% F.S. / 50 ° C [/100 ° F] (except 1 and 2 bar [15, 30 psi] models)
ET1 : CTR -20 to 100 ° C [-4 to 212 ° F]
ET3 : CTR -40 to 150 ° C [-40 to 302 ° F] OTR=CTR (not available with A1, A2, A3 and P7 options)
ET5 : CTR -40 to 80 ° C [-40 to 176 ° F] OTR=CTR (not available with A1, A2, A3 and P7 options)
ET7 : CTR -20 to 120 ° C [-4 to 248 ° F] OTR=CTR (available only when P7 option is requested)
SC : Connector output, prewired, cable length 2 m [6.6 ft]
P5 : IP65 protection (available only for Absolute and Sealed Gauge versions)
P7 : IP67 protection (available only for Absolute and Sealed Gauge versions)
L00M : special cable length, replace “00” with total length in meters (standard length 2,0 m [6,6 ft])

ORDERING INFORMATION

XPM10	**-**	**A1**	**-**	**20B**	**G**	**-**	**/L5M**
Model	-	Output signal	-	Pressure Range	Pressure reference	-	Options
XPM10		(none) : bridge (mV) **A1** : 0,5 to 4,5V **A2** : 0 to 5V **A3** : 4 to 20 mA		**1B** **2B** **5B** **10B** **20B** **35B** **50B** **100B** **200B** **350B**	**A** : absolute **G** : gauge **S** : sealed		/**HA** /**SI** /**ZI** /**ET1** /**ET3** /**ET5** /**ET7** /**SC** /**P5** /**P7** /**L00M**

The sensor ordering codes uses only bar as units because **XPM10** uses metric threads. Psi value correspondence is noted as information.