XPM6

Miniature pressure sensor

SPECIFICATIONS

- **Ranges 20 to 1000 bar [300 to 15k psi]**
- **Sealed and gauge pressure reference**
- **Stainless steel housing**
- **Linearity ±0.25% F.S.**
- **Very low mass, approximately 10 grams without cable (dependent on options)**

FEATURES

- Stainless steel
- M6x1 thread
- Flush Diaphragm
- For Static and Dynamic Applications
- High Level Tension Output Available
- Low Installation Torque Sensitivity

APPLICATIONS

- Explosion test benches
- Extreme Miniature Devices
- Robotics and actuators
- Brake Systems
- Laboratory and research

The **XPM6** 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 and is available in standard ranges from 0-20 to 1000 bars [300 up to 15000 psi].

The **XPM6**'s sensing element is a fully temperature compensated Wheatstone bridge made with high stability micro-machined silicon strain gauges. Also available is option MH, which provides protection up to 1000°C [1832°F] for thermal flashes or explosive testing by the addition of extra protection into the diaphragm.

The **XPM6** incorporates a specific feature, which virtually eliminates zero shifts caused by installation torque.

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

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		Resonant Frequency	Sensitivity "FSO"	Overpressure	Burst Pressure
bar	psi	Gauge	Sealed		(non amplified)	(rated pressure)	(rated pressure)
20	300	•	•	179 kHz	100 mV	2 x FS	3 x FS
35	500	•	•	195 kHz	100 mV	2 x FS	3 x FS
50	750	•	•	227 kHz	100 mV	2 x FS	3 x FS
70	1k	•	•	276 kHz	100 mV	2 x FS	3 x FS
100	1.5k		•	325 kHz	100 mV	2 x FS	3 x FS
200	3k		•	455 kHz	100 mV	2 x FS	3 x FS
350	5k		•	585 kHz	100 mV	2 x FS	3 x FS
500	7.5k		•	764 kHz	100 mV	2 x FS	3 x FS
1000	15k		•	926 kHz	100 mV	2 x FS	3 x FS

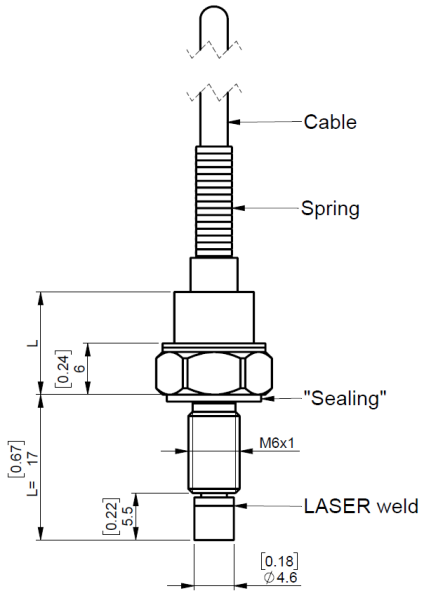
Notes :
1. The suggested frequency of use is 20% of the resonant frequency
2. The bandwidth for versions with A1 electronics is 3kHz.
3. Sensor characterized with a 10 VDC supply voltage as standard
4. The sensitivity "FSO" has a tolerance of -30% to +50%.

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

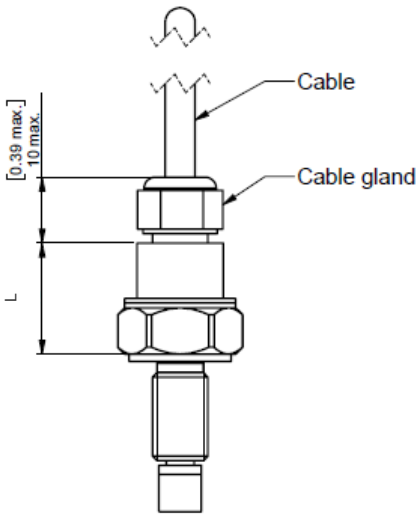
Parameters	Non amplified	Amplified (A1 opt.)	Notes
Power supply	10 Vdc regulated	10 to 30 Vdc	
Sensitivity "FSO"	See previous table	4 V ±0.2 V	Signal 0.5 V - 4.5 V for A1 option
Zero Offset	±10 mV	0.5 V ±0.2 V	
Non Linearity	±0.25%FS		
Hysteresis	±0.25%FS		
Repeatability	±0.2%FS		
Operating Temperature (OTR)	-40 to 150°C (-40 to 302°F)	-40 to 120°C (-40 to 248°F)	MH option allows thermal flash / explosive testing up to 1000°C
Compensated Temperature (CTR)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	
Thermal Zero Shift in CTR (TZS)	<±2.5%FS/50°C		
Thermal Sensitivity Shift in CTR (TSS)	<±2% of reading /50°C		
Input Impedance or consumption	1500 Ω nom.	< 30 mA	
Output Impedance	800 Ω nom.	1000 Ω	
Ingress Protection	IP50 IP67 (consult factory for IP68)		Standard or SC P7 or P7/SC
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.

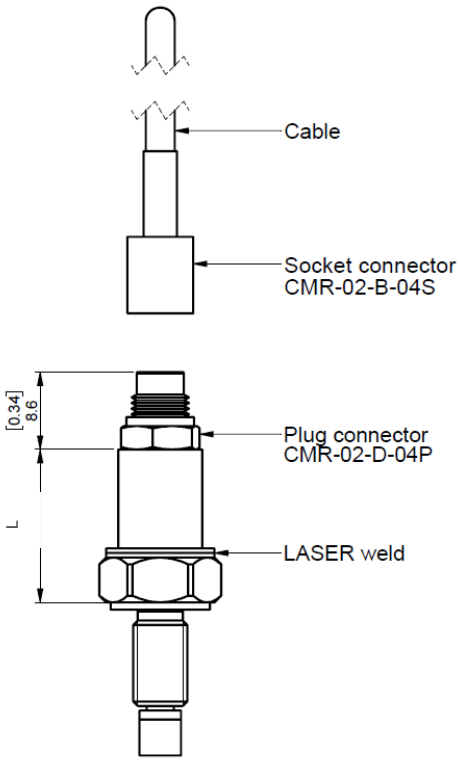
DIMENSIONS (metric & [imperial])



XPM6-*



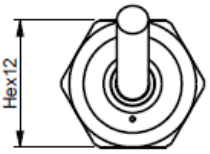
XPM6-*-/P7



XPM6-*-/SC

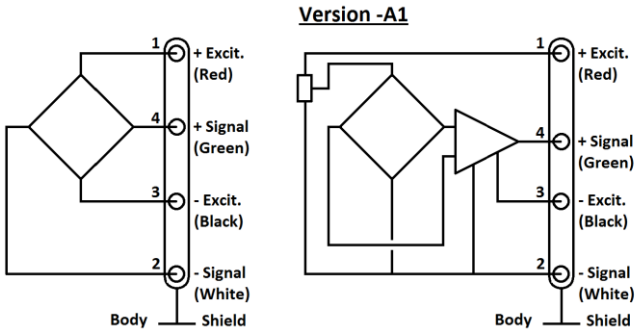
Custom length **L** = 12 to 30 mm [0.47" to 1.18"] on request.
* Mechanical tolerances on L are ±0.1 mm

Version:	Non-Amplified			Amplified A1		
Option:	standard	P7	SC	standard	P7	SC
L (mm)	*6*	*6*	*11*	*12*	*12*	*17*



Weight: The standard configuration without cable and sealing ring is < 10g

WIRING SCHEMATICS



Version -A1

ADDITIONAL INFORMATIONS

1. Recommended Tightening Torque: 5 Nm [44 lbf.in] to 10 Nm [88 lbf.in]
2. Sealing ring supplied: FS < 500B: FKM sealing ring ø10 x 1 mm (operating static temperature -25 to 200°C)
   FS ≥ 500B: Copper ring ø11 x 0.8 mm
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

Temp. Compensation (other compensation ranges are available on request)	**Z04**: CTR -40 to 90 °C [-40 to 194 °F]
	Z35: CTR 20 to 120 °C [68 to 248 °F]
	Z36: CTR 20 to 150 °C [68 to 302 °F] (not available with A1 options)
Transient thermal Protection	**MH**: "H" Diaphragm for thermal flash/explosive testing up to 1000°C
Waterproofing	**P7:** IP67 protection for cable gland output or SC option (available only for Sealed versions)
Removable cable	**SC:** Connector output with prewired mating connector, cable length 2 m [6.6 ft]
Cable Length	**L00M:** special cable length = L5M / L10M / L15M / L20M, total length in meters (standard length 2 m)

ORDERING INFORMATION

XPM6	-		-	1KB	G	-	/Z35/P7/L5M
Model	-	Output signal	-	Pressure Range	Pressure reference	-	Options
XPM6		**(**none**)**: bridge (mV/V) **A1**: 0,5 to 4,5V		**20B** **35B** **50B** **70B** **100B** **200B** **350B** **500B** **1KB**	**G**: gauge **S**: sealed		**/Z04** **/Z35** **/Z36** **/MH** **/P7** **/SC** **/L00M**

The sensor ordering codes uses only bar as units because **XPM6** uses metric threads. Psi value correspondence is noted as information.

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